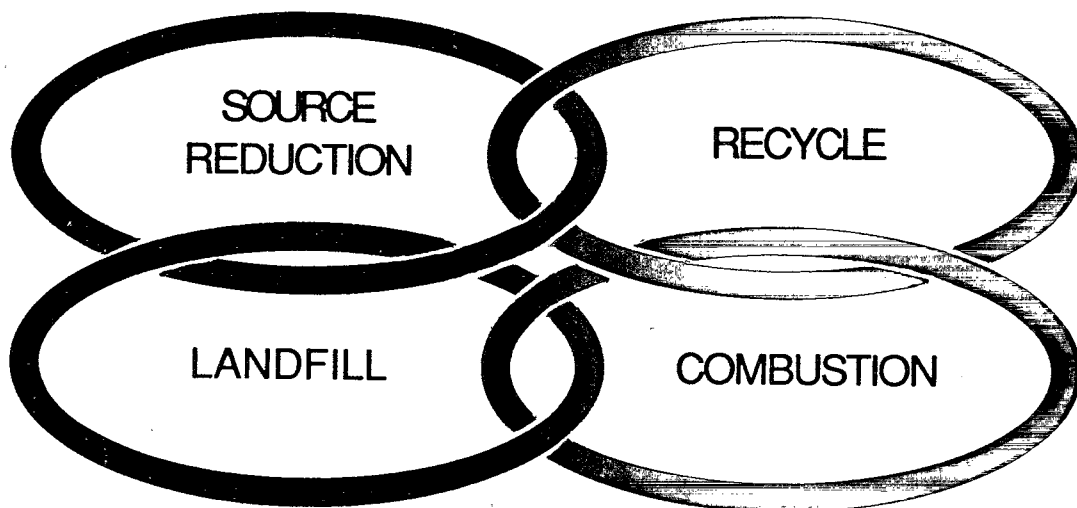
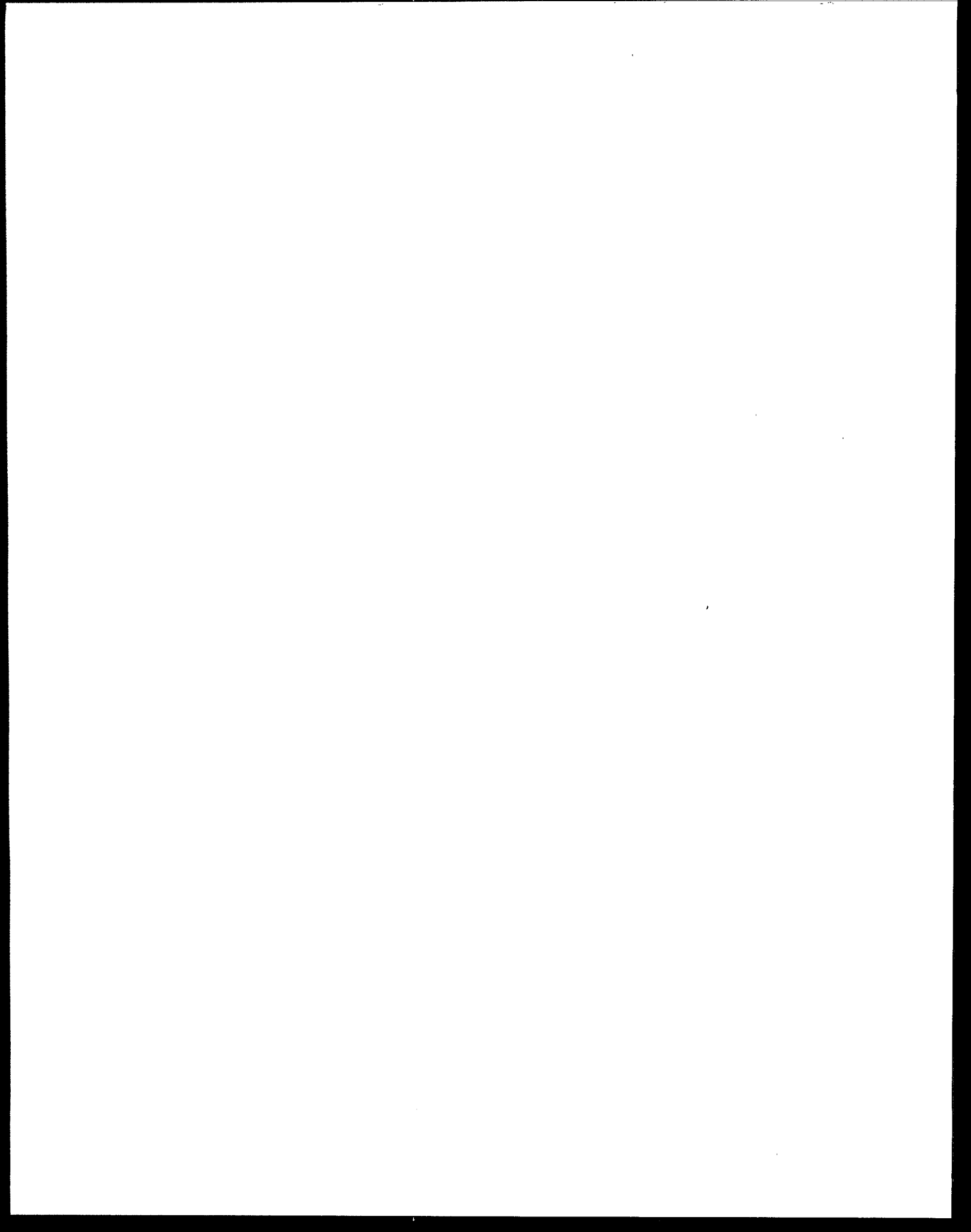


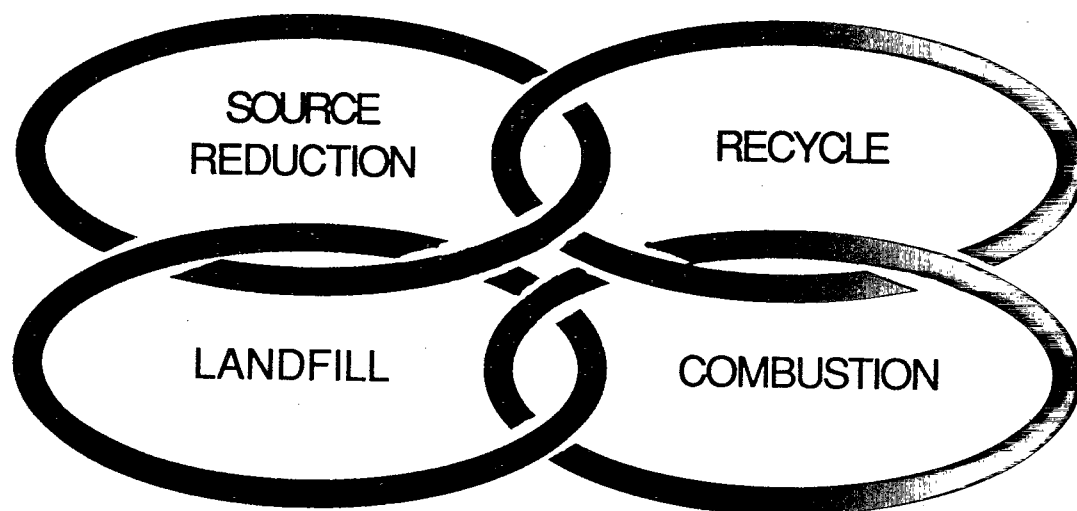


Bibliography of Municipal Solid Waste Management Alternatives

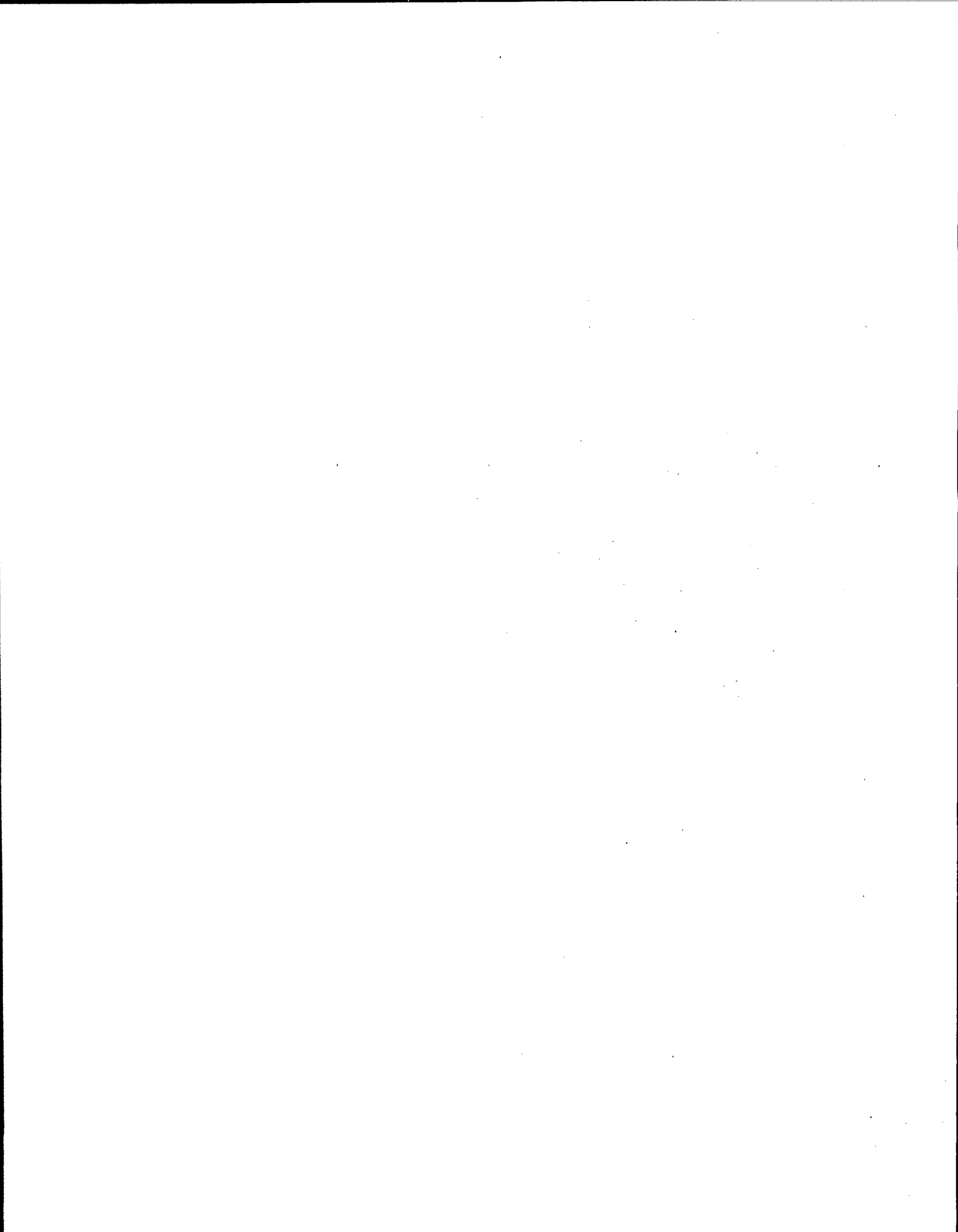




Bibliography of Municipal Solid Waste Management Alternatives



United States Environmental Protection Agency
Solid Waste and Emergency Response
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BIBLIOGRAPHY OF MUNICIPAL SOLID WASTE MANAGEMENT ALTERNATIVES

PURPOSE OF THE BIBLIOGRAPHY

The Office of Solid Waste, U.S. Environmental Protection Agency (EPA), compiled this bibliography of municipal solid waste management information sources in order to assemble into one document key references concerning solid waste management alternatives. Even a cursory review of literature generated over the past two decades on solid waste management reveals a wide range of references on every conceivable topic in this broad and evolving area. Recently, the emphasis in municipal solid waste management has broadened to integrated approaches whose components may include source reduction, recycling, and composting, as well as more traditional management methods.

The objective in compiling this bibliography is to make information on municipal solid waste management approaches more accessible to today's solid waste managers. EPA hopes that this effort to search through the vast array of references, identify key documents, systematically classify the materials, and present them in the form of an annotated bibliography will be a service to solid waste decision makers.

AUDIENCE AND SCOPE

The bibliography is designed primarily for policy makers at the local level, as well as those involved in the technical planning and implementation of various solid waste management components. Thus, the bibliography contains references on the various facets of municipal solid waste management, including planning, design, and implementation. The degree of desegregation of the topics in the bibliography was dictated primarily by the availability of references focusing on unique areas and by the extent to which individual sources address multiple related topics.

The bibliography provides several relevant pieces of information about each reference cited. In addition to the reference's title, author, and date of publication, a brief abstract describes the nature and content of the reference. The abstracts were either obtained through various computerized data bases, found within the information materials themselves, or developed by EPA for the bibliography. The bibliography also provides information on how the information materials may be obtained and their costs.

Some sources address more than one of the categories used in organizing the bibliography. Because the bibliography is organized along topical lines, these references are cited under each appropriate category. Where a source appears in more than one category, its full abstract and other information appear only in the category into which it best fits; the source is then briefly identified at the beginning of each of the other appropriate categories. An alphabetical listing of all sources appears at the end of the bibliography in the List of Titles Section.

PERIODICALS AND OTHER UNCLASSIFIED SOURCES

A number of available publications could not be uniquely classified because of the breadth of areas they typically cover. For example, several periodicals contain information and articles on a wide range of topics broadly related to all solid waste management alternatives. To learn what articles might be relevant in a given area, readers are encouraged to consult the tables of contents of recent issues of these publications. Page vii contains a list of several of these publications, their publishers, an indication of where they might be obtained, and the general areas of solid waste management covered.

LOCATING AND OBTAINING NEW SOURCES

Because the field of municipal solid waste management is changing rapidly, it is EPA's desire that the bibliography be an evolving document. EPA invites users of the bibliography to identify new sources of information and studies of particular importance. Information concerning these new sources may be sent to Municipal Solid Waste Program, Office of Solid Waste, U.S. Environmental Protection Agency, Washington, D.C. 20460; Attention: Bibliography.

TABLE OF CONTENTS
BIBLIOGRAPHY OF MUNICIPAL SOLID WASTE MANAGEMENT ALTERNATIVES:
CLASSIFICATION SYSTEM AND LOCATION

Bibliography Section	Page Number
I. Integrated Solid Waste Management	
A. General	1
II. Waste Stream Analysis	
A. General	9
B. Methods	13
III. Source Reduction	
A. General	15
IV. Collection, Transfer, and Processing	
A. General	18
V. Recycling	
A. General	21
B. Program Development	28
C. Commercial Waste	33
D. Rural Recycling	36
E. Multi-Family Residences	37
F. Community Involvement	38
G. Legislation	41
H. Markets/Market Development	43
I. Waste Exchanges	45
J. Material Specific	47
VI. Composting	
A. General	55
B. Yard Wastes	60
VII. Combustion of Solid Waste	
A. General	64
B. Economics	68
C. Pollution Control	69
D. Technologies	71

Bibliography Section	Page Number
<hr/>	
VIII. Land Disposal	
A. General	75
B. Technologies	78
IX. Educational Programs/Curricula	84
X. Household Hazardous Wastes	90
XI. List of Titles	96

PERIODICALS AND UNCLASSIFIED SOURCES

Source	Publisher/Location	Focus
<i>BioCycle</i>	Box 351 Emmaus, PA 18049	Sewage sludge and yard waste Composting
<i>Fibre Market News</i>	156 Fifth Avenue New York, NY 10010	Textile and waste paper industries
<i>Mill Trade Journal</i>	3505-111 Woodhead Drive Northbrook, IL 60062	Secondary fiber trade journal
<i>Official Board Markets</i>	111 East Wacker Drive 16th Floor Chicago, IL 60601	Secondary fiber trade journal
<i>Recycling Today</i>	156 Fifth Avenue New York, NY 10010	Magazine of scrap materials emphasizing non-ferrous metals
<i>Recycling Times</i>	Suite 1000 1730 Rhode Island Ave. Washington, D.C. 20004	Newspaper of recycling market
<i>Resource Recovery Report</i>	5313 38th St., N.W. Washington, D.C. 20015	Newsletter of the waste-to- energy industry
<i>Resource Recycling</i>	P.O. Box 10540 Portland, OR 97210	Describes post-consumer waste recycling efforts
<i>Resource Recovery</i>	National League of Cities 1301 Pennsylvania Ave., N.W. Washington, D.C. 20004	Designed for local government waste management decision makers
<i>Scrap Age</i>	3605-111 Woodhead Drive Northbrook, IL 60062	Concentrates on ferrous scrap recycling
<i>Scrap Tire News</i>	Recycling Research, Inc. 133 Mountain Rd. Suffield, CT 06078	Covers the recovery, recycling, and disposal of scrap tires.
<i>Solid Waste and Power</i>	HCI Publications 410 Archibald St. Kansas City, MO 64111	Waste-to-energy magazine
<i>Solid Waste Report</i>	Box 1067, Blair Station Silver Spring, MD 20910	General solid waste newsletter
<i>Waste Age</i>	1730 Rhode Island, N.W. Suite 512 Washington, D.C. 20036	General magazine on all aspects of solid waste management

Source	Publisher/Location	Focus
<i>Waste Alternatives</i>	Suite 1000 1730 Rhode Island Ave., N.W. Washington, D.C. 20004	Magazine of disposal options
<i>World Wastes</i>	6255 Barfield Road Atlanta, GA 30382	General magazine on all aspects of solid waste management

INTEGRATED SOLID WASTE MANAGEMENT

The term "integrated waste management" refers to the complementary use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health or the environment (*The Solid Waste Dilemma: An Agenda for Action*).

Documents included in this section either specifically address integrated solid waste management or they focus on aspects of waste management that might be part of an integrated plan. Topics include overall technique comparisons, environmental risk, and financing and economics.

The reader should note that all of the entries in this bibliography can be applied to integrated solid waste management and planning.

-
- TITLE:** *Beyond the Crisis: Integrated Solid Waste Management*
- AUTHOR:** Relis, Paul and Anthony Dominski
- DATE:** September 1987
- LENGTH/PRICE:** 44 pages, \$24.00
- CONTACT:** Community Environmental Council, 930 Miramonte Drive, Santa Barbara, CA 93109.
Tel: (805) 963-0583.
- ABSTRACT:** This policy paper examines the problems confronting local governments and the waste management industry and presents an argument for an integrated waste management approach, including source reduction, source separation, mixed waste recycling, processing, incineration, and landfilling. Impediments to integrated waste management are explored, as well as the roles that will be required of various sectors of society.
-

TITLE: *City of Portland (Oregon) Solid Waste Reduction Program*

DATE: April 1986

SOURCE: Portland Metropolitan Service District, Portland, Oregon

LENGTH/PRICE: Free

CONTACT: METRO, 2000 S.W. First Avenue, Portland, OR 97201-5398. Tel: (503) 221-1646.

ABSTRACT: This report provides a solid waste reduction program summary. Workplans in the following areas are presented: promotion, education, and public involvement; reduce and reuse programs; recycling of 405 materials; recycling of yard debris; post-collection recycling or materials recovery; alternative technologies; legislative programs; certification for local collection services; rate incentives; materials markets assistance; and system measurement.

TITLE: *The Commonwealth Solid Waste Masterplan: Toward a System of Integrated Solid Waste Management*

DATE: December 1988

SOURCE: Massachusetts Department of Environmental Quality Engineering, Bureau of Solid Waste, Boston, MA.

LENGTH/PRICE: \$4.00

CONTACT: State House Book Store, Boston, MA 02133. Tel: (617) 727-2934.

ABSTRACT: This document provides a comprehensive overview of the solid waste problem in Massachusetts. It discusses how much waste is being disposed of in state and regional facilities, and projects plans for integrated waste management for the future. Topics covered include source reduction, recycling, composting and landfilling.

TITLE: *Decision-Maker's Guide in Solid Waste Management*

DATE: 1976, update expected 1989

LENGTH/PRICE: 158 pages

CONTACT: EPA, Office of Solid Waste, Washington, D.C. Call RCRA Hotline: 1-800-424-9346.

ABSTRACT: This manual focuses on all aspects of solid waste management, including: institutional factors, resource conservation, environmental effects, collection, transport, processing, and disposal. An overall summary of management planning is provided and chapters cover collection, transfer stations, and hauling to disposal sites; processing; resource recovery from mixed wastes; sanitary landfilling; reducing waste generation; and special wastes. EPA is currently in the process of updating this document.

TITLE: *Decision-Making in Local Government: The Resource Recovery Alternative*

AUTHOR: Popp, Paul O., et al.

DATE: 1985

LENGTH/PRICE: \$19.95

CONTACT: Technomic Publishing Company, Lancaster, PA. Tel: (717) 291-5609.

ABSTRACT: This handbook examines the technical, economic, and institutional variables that impact energy recovery facilities. The book addresses several topics, and includes information on the integration of techniques. Topics include: regulatory agencies, sources of solid waste, sanitary landfills, state-of-the-art technology assessment, flow control, marketing, technology selection, economics, siting resources, risk and completion.

TITLE: *Directory of Waste Utilization Technologies in Europe and the United States*

DATE: 1988

LENGTH/PRICE: 100+ pages, \$50.00

CONTACT: Institute for Local Self-Reliance, 2425 18th St., NW, Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This directory summarizes recycling, mixed waste processing, composting, and pyrolysis technologies offered by over 80 waste utilization companies. It offers assistance to local decision-makers on the range of options available.

TITLE: *Environmental Risk Discussion of Solid Waste Management Systems*

DATE: April 1987

LENGTH/PRICE: 42 pages, Free

CONTACT: Minnesota Pollution Control Agency, 520 Lafayette Rd., St. Paul, MN 55155. Tel: (612) 296-8439.

ABSTRACT: This paper addresses air pollution, water pollution, land pollution, health risks, and nuisance conditions as they relate to several waste management systems. Specific chapters cover landfills, waste processing and incineration, composting and co-composting, recycling, collection/transportation/transfer stations, and drop box sites. A list of risk-related references is also included.

TITLE: *Garbage Management in Japan*
AUTHOR: Hershkowitz, Allen
DATE: 1987
LENGTH/PRICE: \$15.00
CONTACT: Inform, Inc., 381 Park Avenue S., Suite 1201, New York, NY 10016. Tel: (212) 689-4040.
ABSTRACT: This booklet describes in detail the organizational and institutional factors leading to the success of Japan's solid waste management. Discussions highlight Japan's integrated approach in utilizing materials separation, recycling, incineration, and land disposal to handle the solid waste problem.

TITLE: *Garbage Practices, Problems and Remedies*
AUTHOR: Underwood, Joana and Allen Hershkowitz
DATE: 1987
LENGTH/PRICE: \$3.50
CONTACT: Inform, Inc., 381 Park Avenue S., Suite 1201, New York, NY 10016. Tel: (212) 689-4040.
ABSTRACT: This booklet provides an overview of the state of solid waste management in the United States, including problems and issues of garbage disposal. The document also presents brief descriptions of possible alternatives.

TITLE: *Integrated Waste Management Systems Computer Model*
DATE: 1989
LENGTH/PRICE: \$345 for software and manual
CONTACT: The Conservancy, Offices and Nature Center, 1450 Merrihue Dr., Naples, FL 33942. Tel: (813) 262-0304.
ABSTRACT: This computer model is designed to assist Florida communities in examining and evaluating various combinations of recycling, composting, thermal reduction, energy recovery, landfills and landfill mining in order to develop an optimum waste management system in terms of cost and performance. The model may be run on an IBM PC or the equivalent.

TITLE: *The Integration of Material Recovery in the Essex County Solid Waste Management Plan*

DATE: April 1983

CONTACT: Essex County (New Jersey) Department of Planning and Economic Development, Division of Solid Waste Management, 465 Dr. Martin Luther King, Jr. Blvd., Newark, NJ 07102. Tel: (210) 621-6588.

ABSTRACT: This report provides a technical evaluation of the effects of multimaterial recycling on the operation and economics of a planned mass burn waste-to-energy facility. The report shows that high levels of multimaterial recycling could be achieved with consequent nominal increases in BTUs per unit of remaining waste. The capital costs of the mass burn facility could be reduced proportional to the amount of materials recovered by recycling. It also shows that no negative effects are anticipated with the facility.

TITLE: *Mathematical Model for Strategy Evaluation of Municipal Solid Waste Management Systems*

AUTHOR: Kaila, J.

DATE: 1987

SOURCE: Published in Finland

LENGTH/PRICE: 76 pages, \$14.50

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB88-157532/XAB.

ABSTRACT: This model is capable of handling all the functional elements of a waste management system, allowing a wide range of technical alternatives and possible policy decisions and their effects to be analyzed. Many different types of cost functions can be used without a need to change the solution algorithm.

TITLE: *Overview: Solid Waste Disposal Alternatives*

AUTHOR: Keep America Beautiful, Inc.

DATE: April 1989

LENGTH/PRICE: 25 pages, \$1.00

CONTACT: Keep America Beautiful, Inc., Mill River Plaza, 9 West Broad Street, Stamford, CT 06902. Tel: (203) 323-8987.

ABSTRACT: This booklet outlines various methods of municipal solid waste disposal, with specific information on source reduction, recycling, composting, waste-to-energy, and sanitary landfills.

TITLE: *Renewable Energy: Resource Recovery*

DATE: April 1987

LENGTH/PRICE: Free

CONTACT: Florida Governor's Energy Office, Planning and Research Section, Tallahassee, FL 32399-0001. Tel: (904) 488-6764.

ABSTRACT: This document provides a brief overview of the elements of an integrated solid waste management plan. The focus is on renewable energy sources, and sections are provided on federal, state, and local government involvement in resource recovery.

TITLE: *Resource Recovery from Municipal Solid Waste, Volume 1 (Primary Processing) and Volume 2 (Final Processing)*

AUTHOR: Diaz, Savage, and Golueke

DATE: 1982

LENGTH/PRICE: Each Volume: \$59.00

CONTACT: CRC Press, 2000 Corporate Blvd., Northwest Boca Raton, FL 33431. Tel: (305) 994-0555.

ABSTRACT: This document is an evaluation of municipal solid waste management and recycling practices in the United States as of 1980. It includes engineering information on selecting equipment for conveyance, size reduction, separation, incineration, anaerobic digestion, single cell protein and ethanol production, composting, and landfill systems. Glass, paper, and other recyclable components are identified.

TITLE: *Second Opinion (Computer Model for Feasibility of Solid Waste Options)*

DATE: 1988

LENGTH/PRICE: \$500 for software and manual

CONTACT: New York State Legislative Commission on Solid Waste Management, 150 State Street, Albany, NY 12207. Tel: (518) 455-3711.

ABSTRACT: This computer model has been developed to help local officials to estimate the financial and other effects resulting from a given set of disposal decisions. Inputs to the system supplied by the local decision maker include: characteristics of the waste stream, plant specifications, plant costs, landfill specifications, landfill costs, financing specifications, etc. Outputs of the computer model include: net present cost of each alternative, total capital investment and bond issue required, costs per ton of waste processed over the facilities' lifetimes, size of the tipping fee to break even, etc. The package comes on a standard 5.25-inch diskette. (Abstracted from the U. of Illinois Solid Waste Management Newsletter).

TITLE: *The Solid Waste Dilemma: An Agenda for Action. Final Report of the Municipal Solid Waste Task Force.*

DATE: January 1989

SOURCE: Municipal Solid Waste Task Force

LENGTH/PRICE: 70 pages/Free

CONTACT: EPA, Office of Solid Waste, Washington, D.C. Call RCRA Hotline: 1-800-424-9346.

ABSTRACT: This report outlines a number of concrete waste management suggestions for action by government at all levels, industry, and private citizens. It establishes the scope of the solid waste problem, defines integrated solid waste management, establishes national goals, and sets specific tasks EPA is undertaking to increase available information on planning, source reduction, recycling, etc.

TITLE: *Solid Waste Handbook: A Practical Guide*

AUTHOR: Robinson, William

DATE: 1986

LENGTH/PRICE: 811 pages, \$87.50

CONTACT: John Wiley and Sons, 605 Third Avenue, New York, NY 10158. Tel: (212) 850-6000.

ABSTRACT: This book describes all aspects of solid waste management in great detail. It is divided into three parts: (1) The Public Issues, (2) the Implementation Issues, and (3) Hazardous Solid Wastes. Chapters in the first part address legislation, community relations, economics and financing, and legal issues. Chapters in the second part look at collection, transfer and separation, land disposal, resource recovery, marketing, refuse fuels, and biological processes. The third section looks at federal, state, and local regulatory issues related to hazardous waste management.

TITLE: *Solid Waste Management Planning Guidebook (Minnesota)*

AUTHOR: Berg-Moeger, Cathy

DATE: June 1986

LENGTH/PRICE: Free

CONTACT: Minnesota Pollution Control Agency, 520 Lafayette Rd., St. Paul, MN 55155. Tel: (612) 296-8439.

ABSTRACT: This comprehensive guide introduces the reader to the background and startup of solid waste management planning, and then goes into considerable detail explaining actual plan development. Although the Guide is specifically designed for Minnesota, much of the information included can be applied in other areas. A description of the existing Minnesota solid waste management program is provided and the establishment of goals and outlines is addressed. A technical assessment of collection and storage alternatives, high and low capital disposal alternatives, and special wastes is provided. The Planning Guidebook also contains additional sections on waste management system integration, facility siting, system implementation, public involvement techniques, and financing. An annotated bibliography from the Minnesota Resource Information Center is included.

TITLE: *Report to Congress on Solid Waste Disposal*

DATE: October 1988

SOURCE: EPA, Office of Solid Waste, Washington, D.C

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB89-110381 and PB89-110399.

WASTE STREAM ANALYSIS

General

Existing studies on waste stream composition are provided in the **General** category, while the **Methods** category includes documents outlining ways of conducting a waste stream analysis.

For additional information on waste stream analysis, see:

- *Coming Full Circle, Successful Recycling Today*
- *Decision Making in Local Government: The Resource Recovery Alternative*
- *Solid Waste Handbook: A Practical Guide*

TITLE: *Characterization of Municipal Solid Waste in the United States, 1960 to 2000*

DATE: March 1988

SOURCE: Environmental Protection Agency, Office of Solid Waste and Emergency Response

LENGTH/PRICE: 43 pages, \$15.00

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB88-232780/XAB.

ABSTRACT: Using a materials flow methodology, this report provides historical quantity and composition data on the products and materials in municipal solid waste for the year 1960 to 1986, with projections to 2000.

TITLE: *Characterization of Products Containing Lead and Cadmium in Municipal Solid Waste in the United States, 1970 to 2000*

DATE: January 1989

LENGTH/PRICE: \$25.00

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: 530-sw-89-015A.

ABSTRACT: Using a materials flow methodology, this report provides historical data on the quantities of lead and cadmium in products in municipal solid waste for the years 1970 to 1986, with projections to 2000.

TITLE: *Waste Paper: The Future of a Resource 1980 - 2000*

AUTHOR: Franklin, W.E., M.A. Franklin, and R.G. Hunt

DATE: 1982

LENGTH/PRICE: Free

SOURCE: American Paper Institute

CONTACT: Franklin Associates, Ltd., 4121 West 83rd Street, Suite 108, Prairie Village, Kansas 66208. Tel: (913) 649-2225.

ABSTRACT: This document provides a comprehensive analysis of the waste paper stream and its function as a resource. Topics addressed include: output and raw materials baseline for the paper industry; utilization of paper in the domestic paper industry; exports of waste paper; other uses of waste paper; waste-to-energy recovery; flow control; and an assessment of the future of the resource.

Other existing waste characterizations studies include:

Basic Data for Solid Waste Management, METRO, Department of Solid Waste, City of Portland, Oregon, June, 1988.

Evans, Brian and R.L. Paine, Composition Analysis of Refuse by Land Use in the Core City of Toronto, Toronto Recycling Action Committee, September 1984.

Fourth Report to Congress: Resource Recovery and Waste Reduction, U.S. EPA, 1977.

Garbage Reincarnation, Inc., The Berkeley Comprehensive Composition Study, City of Berkeley, California, June 1983.

Hollander, H.I., V.C. Eller, J.W. Stephenson, and J.K. Kieffer, A Comprehensive Municipal Refuse Municipal Refuse Characterization Program, Paper to the 9th ASME National Waste Processing Conference, Washington, D.C., May 1980.

Ingham County Board of Public Works, Ingham County Solid Waste Stream Assessment. Energy Administration, Michigan Department of Commerce, Management Services Bureau, June 1981.

Multimaterial Source Separation in Marblehead and Somerville, Massachusetts: Composition of Source Separated Materials and Refuse, Volume III, U.S. EPA, 1979.

New York City Department of Sanitation, The Waste Disposal Problem in New York City: A Proposal for Action, Volume 7: Recycling Strategies, Submitted to New York City Board of Estimate, June 1983.

Northeast Michigan 1980 Solid Waste Stream Assessment, Northeast Michigan Council of Governments (NEMCOG), Solid Waste Planning Division, September 1980.

Nowlan, Nicholas P., Solid Waste Disposal Weighing Survey, New Hampshire-Vermont Solid Waste Project, Sullivan County, New Hampshire, Windsor and Windham Counties Vermont.

Rathje, William L. and Barry Thompson, The Milwaukee Garbage Project, The Solid Waste Council of the Paper Industry, March 1981.

Reutter Anderson Schoor Associates, Study of Solid Waste Composition in Passaic County, New Jersey, Passaic County Planning Board, August 1982.

Robison, D.E., A.R. Bazar, B.H. Gump, J.W. Hagan, J.I. Kim, Solid Waste Resources from the Fresno-Clovis Metropolitan Area: Final Report, Volume II: Generation and Resource Recovery, Fresno-Clovis Metropolitan Solid Waste Commission, December 1981.

SCS Engineers, Final Report: Solid Waste Characterization and Flow in the Portland Metropolitan Service District, Metropolitan Service District, Portland, Oregon, July 1980.

SCS Engineers, Municipal Solid Waste Survey Protocol, U.S. EPA, May 1979.

SCS Engineers, RAS Associates, RECON Systems, Inc., Study of Municipal Solid Waste Quantity, Composition, and Fuel Characteristics: Essex, Hudson, and Union Counties, New Jersey, Draft Final report: Summer Survey, Port Authority of New York and New Jersey, December 1980.

Secondary Resources Development Consultants, Inc., Waste Sources, Quantity, and Composition Study: Atlantic County, Atlantic County New Jersey Department of Planning and Development, December 1982.

Tichenor, Richard, An Economic Analysis of Recycling/Incineration Systems for Lincoln County, Maine, Lincoln County, Maine, County Commissioners, 1976.

William F. Cosulich Associates, P.C. in association with Paine, Webber, Jackson, and Curtis, Inc., Preliminary Feasibility Study of Resource Conservation and Recovery Project for the Rutland County Area, Rutland Regional Planning Commission, Rutland, Vermont, December 1979.

WASTE STREAM ANALYSIS

Methods

TITLE: *Solid Waste Stream Assessment Guidebook*

AUTHOR: DiPuccio, Anthony J.

DATE: June 1986

LENGTH/PRICE: 54 pages, \$3.00

CONTACT: Michigan Department of Natural Resources, Resource Recovery Section, P.O. Box 30028, Lansing, MI 48909. Tel: (517) 373-0540.

ABSTRACT: This manual explains how to conduct a waste stream analysis by describing the various categories of solid waste, procedures to plan a sampling program, laboratory analyses of solid waste, procedures to sort waste, and methods to analyze data.

TITLE: *Waste Composition Studies: Literature Review and Protocol*

AUTHOR: McKamic, Frederic W.

LENGTH/PRICE: Free

DATE: October 1985

CONTACT: Massachusetts Department of Environmental Quality Engineering, 1 Winter Street, 9th Floor, Boston, MA 02108. Tel: (617) 292-5856.

ABSTRACT: This document compares various waste composition studies performed for several municipalities across the United States. It discusses waste generation rates, waste composition data, and material recovery rates, and reviews factors influencing these parameters. The report also addresses how to conduct waste stream analyses and discusses potential sources of data.

TITLE: *Estimating Composition and Quantities of Solid Waste Generation; Guide #1 in a Series of Municipal Solid Waste Planning Guides*

DATE: 1983

LENGTH/PRICE: 63 pages, Free

CONTACT: Commonwealth of Pennsylvania, Department of Environmental Resources, Bureau of Waste Management, Division of Municipal Services, P. O. Box 2063, Harrisburg, PA 17120. Tel: (717) 787-7382.

ABSTRACT: The objective of this Guide is to provide local officials with an explanation of the procedures for estimating the quantity, composition, and the energy content of the local waste stream. The procedures discussed include both "desk-top" calculations and field sampling. The information in the Guide is designed to provide a basis for establishing the size of a landfill or processing system, such as an energy recovery facility.

SOURCE REDUCTION

Source Reduction is a waste management technique aimed at reducing the toxicity and quantity of waste *generated*. Documents in this category outline efforts designed to reduce the amount of waste entering the waste stream.

For additional information on source reduction, see:

- *Decision Making in Local Government: The Resource Recovery Alternative*
- *The Solid Waste Dilemma: An Agenda for Action*
- *Solid Waste Handbook: A Practical Guide*

TITLE: *Environmental Shopping Guide*

LENGTH/PRICE: \$2.00

CONTACT: Pennsylvania Resources Council, Inc., P.O. Box 88, Media, PA 19063-0088. Tel: (215) 565-9131.

ABSTRACT: This document contains material designed to promote the buying of products packaged in recycled or recyclable materials not harmful to the environment. The kit includes a Recycling Fact Sheet, Sample Press Release, and suggestions for modifying shopping habits.

TITLE: *Interim Report of the Source Reduction Task Force*

AUTHOR: Coalition of Northeastern Governors (CONEG), Inc.

DATE: April 1989

LENGTH/PRICE: 45 pages, \$20.00

CONTACT: CONEG, 400 North Capitol NW, Suite 382, Washington, D.C. 20001. Tel: (202) 783-6674.

ABSTRACT: This report discusses the CONEG initiative on source reduction, focusing on source reduction of packaging. It outlines the task force findings and recommendations for immediate action.

TITLE: *The Next Frontier: Solid Waste Source Reduction*

AUTHOR: Hurst, Karen; Paul Relis; and Joan Melcher

DATE: October 1988

LENGTH/PRICE: 44 pages, \$24.00

CONTACT: Community Environmental Council, 930 Miramonte Drive, Santa Barbara, CA 93109.
Tel: (805) 963-0583.

ABSTRACT: This paper evaluates the role of source reduction in an integrated solid waste management plan. It is presented in a question and answer format, and outlines the scope and history of source reduction; the societal and economic issues that have held it back; the likely targets of source reduction programs; available policy options; and current actions. The paper ends with a discussion of what will be required from all sectors of society if front-end volume and toxicity reduction is to move from theory into practice.

TITLE: *Solid Waste Management Alternatives: Review of Policy Options to Encourage Waste Reduction*

AUTHOR: Zimmerman, Elliot

DATE: February 1988

SOURCE: Illinois Department of Energy and Natural Resources

LENGTH/PRICE: 70 pages, \$15.95 (Microfiche: \$6.95)

CONTACT: Available at Illinois Depository Libraries or through the National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.

ABSTRACT: This report outlines a range of policy options which encourage both post-consumer and industrial waste reduction. It shows that in order to adopt effective waste reduction policies, States must develop a framework for evaluating alternative policy options. Three general waste reduction approaches are: (1) regulatory approaches, (2) financial incentives and/or disincentives, (3) research and education.

TITLE: *Source Reduction Task Force Report*

DATE: November 1987

LENGTH/PRICE: Free

CONTACT: Ocean State Cleanup and Recycling, Rhode Island Department of Environmental Management, 9 Hayes St., Providence, RI 02908. Tel: (401) 277-3434.

ABSTRACT: This report summarizes the activities of the Rhode Island Source Reduction Task Force, which was formed to promote more careful and efficient production, use, and disposal of materials and products. It also outlines recommendations for future source reduction programs in Rhode Island.

TITLE: *State Solid Waste Policy Report, A Focus on Greater Minnesota - Background Paper X: Waste Reduction (Draft)*

AUTHOR: Lauer, Pam Winthrop

DATE: December 1988

LENGTH/PRICE: 27 pages

CONTACT: Minnesota Pollution Control Agency, Office of Waste Management Grants and Assistance, 1350 Energy Lane, Suite 201, St. Paul, MN 55108. Tel: (612) 649-5743/(800) 652-9747.

ABSTRACT: This document discusses waste reduction, different approaches to waste reduction, and how to promote these approaches. It also discusses waste reduction policy in Minnesota, in other states, and at the Federal level.

COLLECTION, TRANSFER, AND PROCESSING

Although this category addresses collection, transfer, and processing as they relate to all forms of solid waste management, many of the documents listed here are also closely related to the Recycling category.

A major source of information on state-of-the-art collection techniques is:

Government Refuse Collection and Disposal Association
8750 Georgia Avenue, Suite 123
Silver Spring, Maryland 20910

(301) 585-2898

For additional information see:

- *Decision-Making in Local Government, the Resource Recovery Alternative*
- *Is Resource Recovery For You?*
- *Pennsylvania Curbside Primer*
- *A Planning Guide for Residential Recycling Programs in Illinois: Drop-Off, Curbside, and Yard Waste Composting*
- *Operating a Recycling Program: A Citizen's Guide*
- *Solid Waste Handbook: A Practical Guide*
- *Steps in Organizing a Municipal Recycling Program*
- *The Virginia Recycling Guide: Establishing a Recycling Collection Center*

TITLE: *Balers for Volume Reduction*

DATE: August 1980

LENGTH/PRICE: Free

CONTACT: Michigan Department of Natural Resources, Waste Management Division, Resource Recovery Section, P. O. Box 30028, Lansing, Michigan 48909. Tel: (517) 373-0540.

ABSTRACT: This report summarizes the economics, advantages, disadvantages, alternatives and future potential of balefills and baling of recyclables. Descriptions and costs of different equipment types are included.

TITLE: *Curbside Collection of Recyclables*

DATE: December 1985

LENGTH/PRICE: Free

CONTACT: Massachusetts Department of Environmental Quality Engineering, 1 Winter Street, 9th Floor, Boston, MA 02108. Tel: (617) 292-5856.

ABSTRACT: This document is designed to assist municipalities in establishing curbside collection programs. The report contains brief discussions and worksheets for topics such as materials recovery targets, costs and benefits, equipment selection, and routes and scheduling. Several case studies are presented as examples of successful programs.

TITLE: *Estimating Solid Waste Transportation Costs, Guide #2 in a Series of Municipal Solid Waste Planning Guides*

DATE: August 1983

SOURCE: Local Government Research Corporation, State College, Pennsylvania

LENGTH/PRICE: Free

CONTACT: , Pennsylvania Department of Environmental Resources, Bureau of Solid Waste Management, Division of Municipal Services, P. O. Box 2063, Harrisburg, PA 17120. Tel: (717) 787-7382.

ABSTRACT: This booklet analyzes the various costs incurred in transporting solid wastes. It discusses in detail the costs and characteristics of transfer stations and hauling vehicles. Worksheets to aid in calculations are provided.

TITLE: *Processing*

DATE: January 1981

LENGTH/PRICE: Free

CONTACT: Michigan Department of Natural Resources, Waste Management Division, Resource Recovery Section, P. O. Box 30028, Lansing, Michigan 48909. Tel: (517) 373-0540.

ABSTRACT: This report describes the advantages and disadvantages for shredding solid wastes for landfill, energy recovery, composting, or recovery of recyclable materials. Different types of shredders are described.

TITLE: *Solid Waste Collection and Disposal: 1987*
DATE: 1987
LENGTH/PRICE: \$3.50
CONTACT: American Public Works Association, 1313 East 60th Street, Chicago, IL 60673. Tel: (312) 667-2200.
ABSTRACT: This text provides the results of a survey of public agencies and their response to new techniques of solid waste disposal.

TITLE: *Source Separation, Collection, and Processing Equipment*
AUTHOR: Oliva, Huffman, and Powell
DATE: July 1980
SOURCE: Environmental Protection Agency, Office of Solid Waste, Washington, D.C.
LENGTH/PRICE: 96 pages, \$14.95
CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB81-158297.
ABSTRACT: This report provides detailed descriptions of equipment, examples of city programs where the equipment was used, and specific recommendations on equipment design and use.

TITLE: *Transfer Stations*
DATE: March 1983
LENGTH/PRICE: Free
CONTACT: Michigan Department of Natural Resources, Waste Management Division, Resource Recovery Section, P. O. Box 30028, Lansing, Michigan 48909. Tel: (517) 373-0540.
ABSTRACT: This report shows capital costs and operational costs for several different sizes of transfer stations. In particular it addresses low population density regions where wastes or recyclable materials must be hauled long distances for disposal.

RECYCLING

General

The **General** category includes overview documents as well as those that address all aspects of recycling. Also found in this section are the documents addressing the economics and financing of recycling programs.

It should be noted that most of the documents in the **Integrated Solid Waste Management** category (p. 1) also contain information on recycling programs.

TITLE: *Coming Full Circle, Successful Recycling Today*

AUTHOR: Cohen, Nevin, Michael Herz, John Rustun

DATE: 1988

LENGTH/PRICE: \$25.00

CONTACT: Environmental Information Exchange, Environmental Defense Fund, Inc., 1616 P. St. NW, Washington D.C. Tel: (202) 387-3500.

ABSTRACT: This book describes ways to promote recycling programs at the local, federal, and state levels. Examples of successful programs provide suggestions of collection and separation methods. One section explains the roles of waste stream analysis, waste management plans, and legislation. Other sections provide suggestions on incentives of state and federal governments to promote recycling. Market development for recyclable materials is also discussed.

TITLE: *Designing for Profit in Recycling*

AUTHOR: Hickman, Doug

DATE: 1985

LENGTH/PRICE: 66 pages, \$42.45

CONTACT: RowanTree Enterprises, Box 1613, Stouffville, Ontario, Canada L4A 8A4.

ABSTRACT: This report presents an approach used for measuring participation in recycling, and documents how outstanding material recovery levels are being achieved in Kitchener, Ontario. It also provides operational data that can lead to significant improvements in program management. Issues addressed include: levels of participation in recycling over time; impacts of seasonal and other variations on the quantity of materials recovered; and feasible levels of waste reduction.

TITLE: *Development and Pilot Test of an Intensive Municipal Solid Waste Recycling System for the Town of East Hampton*

AUTHOR: Commoner, Barry, et al.

DATE: December 1988

LENGTH/PRICE: 300 pages, \$30.00

CONTACT: Center for the Biology of Natural Systems, Queens College of the State University of New York, Flushing, NY 11367-0904. Tel: (718) 670-4180.

ABSTRACT: This report outlines a pilot project in East Hampton, New York which tested the efficiency of the Intensive Recycling System in which residents voluntarily separated their trash into four fractions: food garbage and soiled paper, paper/cardboard, metal cans/glass bottles, and nonrecyclables. A compost facility treated the food and soiled paper fractions while a recycling center produced products from the glass, metal, and paper fractions. According to the report, the project realized an 84.4% recovery rate. The report also includes cost comparisons and market analyses.

TITLE: *Feasibility of Tax Incentives for Purchases of Recycling Equipment or Recycled Products*

DATE: May 1987

LENGTH/PRICE: 172 pages

CONTACT: Illinois Department of Energy and Natural Resources, Energy and Environmental Affairs Division, 325 West Adams, Room 300, Springfield, IL 62704-1892. Tel: (217) 785-2800.

ABSTRACT: This report provides an analysis of financial incentives for the recovery and recycling of waste. It provides an in depth, technical analysis of various taxes and regulations, and draws conclusions on the effectiveness or ineffectiveness of the programs.

TITLE: *Garbage Solutions: A Public Officials Guide to Recycling and Alternative Solid Waste Management Technologies*

AUTHOR: Chertow, Marian

DATE: 1989

LENGTH/PRICE: \$14.00 each for 1 - 9 copies; \$12.00 for 10 - 19; \$10.00 for 20 or more

CONTACT: National Resource Recovery Association, United States Conference of Mayors, 1620 EYE Street, N.W., Washington, D.C. 20006. Tel: (202) 293-7330.

ABSTRACT: This document is designed to orient local officials to new and old recycling alternatives being pursued across the country. It provides critical judgement about the way industry is developing, plus the latest trends and ideas in the field. The audience is primarily local waste management officials, but the information is also valuable to business and community leaders and citizens.

TITLE: *The Impact of Source Separation Plans on Resource Recovery Facilities Economics*

AUTHOR: Carlson, R.

DATE: October 1985

LENGTH/PRICE: 23 pages

CONTACT: Center for the Biology of Natural Systems, Queens College of the State University of New York, Flushing, NY 11367. Tel: (718) 670-4180.

ABSTRACT: This paper provides a study of the impact of the introduction of a material recovery program (recycling and composting) on the operating costs of energy recovery facilities. It also outlines the implications for landfill space conservation.

TITLE: *Incentives for Recycling*

DATE: January 1988

SOURCE: Senator Joseph L. Bruno, Vice Chairman, New York State Legislative Commission on Solid Waste Management

LENGTH/PRICE: 80 pages, Free

CONTACT: New York State Legislative Commission on Solid Waste Management, 150 State Street, 5th Floor, Albany NY 12207. Tel: (518) 455-4436. New York State, Department of Environmental Conservation, Division of Solid Waste, Room 208, 50 Wolf Rd., Albany, NY 12233-4010

ABSTRACT: This report examines the various institutional incentives and disincentives that affect recycling activities, and discusses program and policy changes that could enhance the success of recycling ventures. It also examines federal and state roles in encouraging waste recycling. Included are an analysis of New York's current recycling efforts and recommendations for further reuse of materials.

TITLE: *Intensive Recycling Feasibility Study for the City of Buffalo*

AUTHOR: Commoner, Barry, et al.

DATE: April 1988

LENGTH/PRICE: 150 pages, \$20.00

CONTACT: Center for the Biology of Natural Systems, Queens College of the University of New York, Flushing, NY 11367-0904. Tel: (718) 670-4180.

ABSTRACT: This report is a study of the feasibility of applying the Center for the Biology of Natural Systems' (CBNS) Intensive Recycling System to the disposal of Buffalo's trash. Under this system, households separate their trash into four fractions: paper and cardboard, food garbage and yard waste, bottles and cans, and nonrecyclables. The food and yard waste is treated at a compost facility while paper, bottles, and cans are sent to a recycling facility. In this report, CBNS maintains that this system would reduce disposal costs and increase the employment and earnings of city employees.

TITLE: *Mining Urban Wastes: The Potential for Recycling; Worldwatch Paper 76*

AUTHOR: Pollock, Cynthia

DATE: April 1987

LENGTH/PRICE: 58 pages, \$4.00

CONTACT: Worldwatch Institute, 1776 Massachusetts Ave., N.W., Washington, D.C. 20036. Tel: (202) 452-1999.

ABSTRACT: This report provides a comprehensive evaluation of the status of and demand for recycling. Included are sections on the history of the current garbage glut and current solid waste management practices. The report studies recycling trends and potential implementation and cites several recycling success stories. The final section of the report looks at what are the essential components of a recycling society.

TITLE: *Options to Overcome Barriers to Recycling*

DATE: February 1987

LENGTH/PRICE: \$5.00

CONTACT: Michigan Department of Natural Resources, Resource Recovery Section, P.O. Box 30028, Lansing, MI 48909. Tel: (517) 373-0540.

ABSTRACT: This document reviews financial and institutional methods to encourage recycling. Options discussed include: tax credits for recovered material use, investment tax credits or tax exemptions for plants and equipment, transportation subsidies and regional marketing, procurement guidelines, guarantees of supply of solid waste, and direct assistance in the form of grants, technical assistance, and legislation.

TITLE: *Phase I and II Master Recycling Planning Study: State of Rhode Island and Providence Plantations*

DATE: February 1988

LENGTH/PRICE: \$30 each for Phase I and II

CONTACT: Ocean State Cleanup and Recycling, Rhode Island Department of Environmental Management, 9 Hayes St., Providence, RI 02908. Tel: (401) 277-6012.

ABSTRACT: This document presents the results of studies undertaken to explore the cost and feasibility of implementing recycling in nine Rhode Island communities. Chapters cover community characteristics, projections on issues affecting recycling, program alternatives (i.e., collection and separation), community specific alternatives, recommendations, and plan implementation.

TITLE: *Recycling From Municipal Refuse: A State-of-the-Art Review and Annotated Bibliography*
AUTHOR: Cointreau, Gunnerson, Huls, and Seldman
DATE: 1985
LENGTH/PRICE: 215 pages, \$12.95
CONTACT: World Bank Publications, P.O. Box 37525, Washington, D.C. 20013.
ABSTRACT: This report is in two parts: a concise state-of-the-art overview of recycling from municipal refuse, focusing on techniques and conditions germane to developing countries; and an annotated bibliography with abstracts of more than 200 published references on recycling.

TITLE: *Recycling in Rhode Island: A Blueprint for Success*
DATE: January 1989
LENGTH/PRICE: 12 pages
CONTACT: Rhode Island Department of Environmental Management, Ocean State Cleanup and Recycling (OSCAR) Program, 83 Park St., Providence, RI 02903-1037. Tel: (401) 277-6012.
ABSTRACT: This document outlines the history and activities of Rhode Island's comprehensive recycling program. Municipal waste and commercial waste recycling are discussed, as is the funding associated with different programs.

TITLE: *Recycling Works! State and Local Solutions to Solid Waste Management Problems*
DATE: January 1989
SOURCE: EPA, Office of Solid Waste
LENGTH/PRICE: Free
CONTACT: EPA, Office of Solid Waste, Washington, D.C. Call RCRA Hotline: 1-800-424-9346.
ABSTRACT: This document describes several local recycling programs. Several successful State, local, and cooperative programs are outlined. Some of the programs are cooperative agreements between the public and private sectors, while others are completely private ventures. Also included are a leaf composting program and a used oil recycling program.

TITLE: *There's More Than One Way to Recycle: Case Studies of Recycling Programs*

LENGTH/PRICE: \$2.00

CONTACT: Clean Air Council, 311 Juniper St., Room 603, Philadelphia, PA. Tel: (215) 545-1832.

ABSTRACT: This document provides case studies of recycling programs in: Camden County, NJ; Chicago, IL; Kitchener, Ontario, Canada; Marin County, CA; Minneapolis, MN; Montclair, NJ; Spring City, PA; and Toledo, OH.

TITLE: *Waste: Choices for Communities*

AUTHOR: Knaus, Lois

DATE: September 1988

SOURCE: Concern, Inc., Washington, D.C.

LENGTH/PRICE: 35 pages, \$3.00

CONTACT: Concern, Inc., 1794 Columbia Rd., NW, Washington, D.C. 20009. Tel: (202) 328-8160.

ABSTRACT: This booklet describes the solid waste problem, outlines current management options and alternatives, and suggests actions everyone can take to achieve a nationwide commitment to waste reduction, recycling, and reuse. The booklet encourages citizens to involve themselves in decisions about the way waste is managed in their communities and promotes the adoption of integrated systems designed specifically for their local needs.

RECYCLING

Program Development

Many of the documents listed in this section have particular applicability to the **Integrated Solid Waste Management** section (p. 1), and vice versa.

TITLE: *Community-Based Waste Recycling*

LENGTH/PRICE: 20 pages, \$3.00

CONTACT: Institute for Local Self-Reliance, 2425 18th St., N.W., Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This is an introduction to waste recycling as a community-based business. It includes profiles of three successful programs, descriptions of three types of operations (drop-off, curbside, and buy-back) and how to determine whether or not a program will be profitable. It also includes price ranges for commonly recycled materials; how to budget for wages, equipment, site expenses and maintenance; and resource listings.

TITLE: *The Complete Guide to Planning, Building and Operating a Multi-Material Theme Center*

DATE: 1984

LENGTH/PRICE: 30 pages, Free

CONTACT: The Glass Packaging Institute, 1801 K St., N.W., Suite 1105-L, Washington, D.C. 20006. Tel: (202) 887-4850.

ABSTRACT: This guide is aimed at providing information on all phases of a multi-material theme recycling center. Chapters cover planning, organization, preparation of facilities, marketing communications, and operations management.

TITLE: *How to Run a Community Recycling Center: A Resource Guide to Low-Technology Recycling in Illinois*

AUTHOR: Engelhardt, Anna L.

DATE: August 1982

LENGTH/PRICE: 181 pages

CONTACT: Illinois Department of Energy and Natural Resources, 325 West Adams St., Room 300, Springfield, IL 62704-1892. Tel: (217) 785-2800. Doc. # 82/17.

ABSTRACT: This guide provides an array of operational options for recycling centers, techniques for handling and marketing recyclables, and suggestions for making projects competitive and successful.

TITLE: *Operating a Recycling Program: A Citizen's Guide*

DATE: 1979

SOURCE: Portland Recycling Team, Portland, OR.

LENGTH/PRICE: 95 pages

CONTACT: EPA, Office of Solid Waste (U.S. EPA Guide SW-770)

ABSTRACT: This document is a practical guide to operating a city-wide recycling program. Included are chapters on markets, models of operation, handling, transporting and processing, equipment, labor, funding, and business and legal structures. Additional resources and sources of information are also provided.

TITLE: *Pennsylvania Curbside Recycling Primer*

DATE: July 1985

LENGTH/PRICE: Free

CONTACT: Pennsylvania Department of Environmental Resources, Bureau of Waste Management, Division of Resource Recovery and Planning, Recycling and Energy Recovery Section, P. O. Box 2063, Harrisburg, PA 17120. Tel: (717) 787-7382.

ABSTRACT: This booklet addresses important considerations in starting up a recycling program. It lists recyclable materials and collection methods, discusses handling methods and program structures, and provides a description of the costs and revenues of recycling. The appendix to the document lists several case studies.

TITLE: *Recycling in New Hampshire: An Implementation Guide*
DATE: 1988
SOURCE: New Hampshire Resource Recovery Association
LENGTH/PRICE: \$25 to \$300, depending on buyer
CONTACT: New Hampshire Resource Recovery Association, 105 Loudon Rd., Building #3, Concord, NH 03302-0721. Tel: (603) 224-6996.
ABSTRACT: This guide includes chapters on planning a recycling program, assessing recycling program options, identifying markets, processing and storing recyclables, recycling center design, recycling promotion, economics of recycling, and purchasing recycled products.

TITLE: *A Planning Guide for Residential Recycling Programs in Illinois: Drop-Off, Curbside, and Yard Waste Composting*
AUTHOR: Mielke, Gary and David Walters
DATE: May 1988
LENGTH/PRICE: 41 pages
CONTACT: Office of Solid Waste and Renewable Resources, Illinois Department of Natural Resources, 325 West Adams St., Room 300, Springfield, Illinois 62704-1892. Tel: (217) 785-2800. Doc: ILNER/RR-87/02
ABSTRACT: This report presents a planning guide for three major types of residential recycling programs: drop-off centers, curbside collection, and yard waste composting. It is based upon actual operating experience of recycling programs both in Illinois and other States. The guide provides a framework for municipalities to attain locally-stated recycling goals and is designed to assist public or privately operated programs in achieving maximum efficiency in their recycling efforts. A discussion of operational strategies, waste stream impacts, and program economics is presented for each type of program.

TITLE: *Steps in Organizing a Municipal Recycling Program*

DATE: 1988

LENGTH/PRICE: Free

CONTACT: New Jersey Department of Environmental Protection, Division of Solid Waste Management, Office of Recycling, 401 East State Street, CN 414, Trenton, NJ 08625. Tel: (609) 292-0331.

ABSTRACT: This pamphlet outlines the various steps in organizing a recycling program. These include locating markets, choosing collection methods, conducting economic analyses, and establishing publicity campaigns. The appendices contain useful information such as waste generation rates, factors to convert volume of waste to recyclable materials, lists of collection vehicles, source separation techniques, and cost analysis worksheets.

TITLE: *A Strategy for Regional Recycling*

DATE: June 1985

LENGTH/PRICE: 55 pages, Free

CONTACT: Massachusetts Department of Environmental Quality Engineering, Bureau of Solid Waste Disposal, 1 Winter Street, 9th Floor, Boston, MA 02108. Tel: (617) 292-5856.

ABSTRACT: In this document, Massachusetts proposes to enact a plan in which the state would provide funds to local communities for material recovery facilities, curbside collection programs, and educational programs. In return, local communities would pass ordinances requiring source separation, publicize the programs, and see to the collection and delivery of materials to recycling facilities.

TITLE: *Ten Steps to Organizing a Community Recycling Program*

LENGTH/PRICE: \$1.50

CONTACT: Pennsylvania Resources Council, Inc., P.O. Box 88, Media, PA 19063-0088. Tel: (215) 565-9131.

ABSTRACT: This document provides a concise description of how to organize a community recycling program, pitfalls to avoid, and hints for success. Includes a glossary of recycling terms and lists other relevant information.

TITLE: *Virginia Recycling Guide: Establishing a Recycling Collection Center*

DATE: 1982 (update expected 1989)

CONTACT: Division of Litter Control, Virginia Department of Conservation and Economic Development, 1215 Washington Building, Richmond, VA 23219. Tel: (804) 786-8679.

ABSTRACT: This comprehensive manual focuses primarily on the establishment of a recycling collection center. It includes sections on planning and organization, management, and promotion and advertising. A long list of appendices address recycling by specific materials. The manual also includes lists of recycling organizations and other sources of information.

TITLE: *Waste to Wealth: A Business Guide for Community Recycling Enterprises*

LENGTH/PRICE: 109 pages, \$35.00

CONTACT: Institute for Local Self-Reliance, 2425 18th St., N.W., Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This is a how-to guide for preparing business and investment plans for six waste recycling enterprises. Information is based on successful bottle washing, paper highgrading, multi-material collection and processing, oil washing, and crumb rubber manufacturing operations. Each case study includes: description of industry, equipment and equipment suppliers, market survey techniques, sample cash flows, and capital requirements.

RECYCLING

Commercial Waste

TITLE: *Guide for Preparing Commercial Solid Waste Reduction and Recycling Plans*

AUTHOR: Ocean State Cleanup and Recycling (OSCAR), Rhode Island Department of Environmental Management

DATE: 1988

LENGTH/PRICE: 54 pages

CONTACT: OSCAR, Rhode Island Department of Environmental Management, 83 Park Street, Providence, RI 02903-1037.

ABSTRACT: This guide outlines how to develop a solid waste reduction and recycling plan for commercial facilities. It describes how to meet the requirements of the Rhode Island Department of Environmental Management and provides guidance for efficient and economical solid waste management for companies.

TITLE: *A Guide to Recycling Commercial Waste*

LENGTH/PRICE: Free

CONTACT: New Jersey Department of Environmental Protection, Office of Recycling, 401 East State Street, CN 414, Trenton, NJ 08625. Tel: (609) 292-0331.

ABSTRACT: This pamphlet briefly describes how to find and separate the following wastes to be recycled: glass, corrugated containers, high grade office paper, and food waste.

TITLE: *Handbook for the Reduction and Recycling of Commercial Solid Waste*

AUTHOR: Brown summer internship program, Rhode Island DEM

DATE: 1988

LENGTH/PRICE: 48 pages, Free

CONTACT: Rhode Island Department of Environmental Management, Ocean State Cleanup and Recycling (OSCAR) Program, 83 Park St., Providence, RI 02903-1037. Tel: (401) 277-6012.

ABSTRACT: This report highlights the fundamental elements of a commercial recycling program and provides supplementary information regarding the establishment and operation of such a program. Included in the document are the Rhode Island regulations on recycling and source reduction. Additional information includes: source reduction options, markets for recyclable materials, listings of waste exchanges, collection requirements, recycling planning services, and a glossary of relevant terms.

TITLE: *Office Paper Recovery: An Implementation Manual*

DATE: 1977

SOURCE: Environmental Protection Agency, Office of Solid Waste

LENGTH/PRICE: 60 pages, \$14.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB-197587/XAB

ABSTRACT: The manual gives pictorial and factual information to aid Federal government personnel who are responsible for implementing and operating office source separation programs.

TITLE: *Office Paper Recycling*

DATE: 1987

SOURCE: Portland Metropolitan Service District, Portland, Oregon

LENGTH/PRICE: Free

CONTACT: METRO, 2000 S.W. First Ave., Portland, Oregon 97201-5398 Tel:(503) 221-1646

ABSTRACT: This pamphlet describes the steps to implement an office paper recycling program. These steps include choosing a coordinator, surveying items discarded, deciding what to recycle, choosing recycling containers, and educating employees.

TITLE: *Papercycle: Office Paper Recycling at the Ohio Department of Natural Resources*

DATE: December 1986

LENGTH/PRICE: 48 pages, Free

CONTACT: Anne R. Filbert, Ohio Department of Natural Resources, Office of Litter Prevention, Fountain Square, Building E-1, Columbus, OH 43224. Tel: (614) 265-6367.

ABSTRACT: This is a research report on the development and operation of a pilot program to recycle white office paper at a state government agency.

TITLE: *Setting Up an Office Recycling Program: A How-To Manual for Businesses, Organizations, and Institutions*

AUTHOR: Outerbridge, Thomas; Joan Melcher; and Paul Relis

DATE: 1987

LENGTH/PRICE: 1: \$8.00; 2-7: \$4.50; \$3.50 each for more than 10.

CONTACT: Community Environmental Council, 930 Miramonte Dr., Santa Barbara, CA 93109. Tel: (805) 963-0583.

ABSTRACT: This manual is designed to help organizations recover the high-grade paper generated by administrative and clerical functions, computer printers, copying machines, mail services, and other operations of offices and other organizations. The general steps that should be followed during implementation of the program are included.

RECYCLING

Rural Recycling

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- TITLE:** *Case Studies in Rural Solid Waste Recycling*
- DATE:** November 1987
- LENGTH/PRICE:** \$8.00
- CONTACT:** The Minnesota Project, 2222 Elm St., SE, Minneapolis, MN 55414. Tel: (612) 378-2142.
- ABSTRACT:** This document provides descriptions and analyses of several rural solid waste recycling programs. Included are findings on the history, operation, and impact of the programs, and conclusions related to such topics as impact on total solid waste management systems, target materials, processing and marketing, economic incentives, etc. Recommendations are made for State and local level decision makers.
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- TITLE:** *Why Waste a Second Chance? A Small Town Guide to Recycling*
- AUTHOR:** Brown, Hamilton, et. al.
- DATE:** 1989
- SOURCE:** National Center for Small Communities (a program of the National Association of Towns and Townships)
- LENGTH/PRICE:** 41 pages
- CONTACT:** National Association of Towns and Townships, 1522 K Street, N.W., Suite 730, Washington, D.C. 20005. Tel: (202) 737-5200.
- ABSTRACT:** This document is a training package for small town leaders designed to help the community identify and develop the opportunities available through recycling. Topics covered include problem assessment, marketing recycled products, designing a program, and public education
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RECYCLING

Multi-Family Residences

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- TITLE:** *Guide for Preparing Solid Waste Recycling Plans for Multi-Family Residence Units*
- DATE:** May 1989
- LENGTH/PRICE:** 26 pages
- CONTACT:** OSCAR, Rhode Island Department of Environmental Management, 83 Park Street, Providence, RI 02903-1037.
- ABSTRACT:** This document provides guidance on multi-family residence compliance with Rhode Island Department of Environmental Management (DEM) regulations concerning recycling at these units. The guide provides basic directions for developing a recycling program and for filing the required plan, including: an explanation of why recycling is important, instructions for preparing a recycling plan, a completed sample plan, and forms on which the plan is submitted to DEM. Although specific to Rhode Island, the information in this guide will be useful for any community considering multi-family residence recycling.
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- TITLE:** *Strength in Numbers: A Manual for Recycling in Multifamily Housing*
- AUTHOR:** Batty, Sandy
- DATE:** 1988
- LENGTH/PRICE:** 16 pages, Free
- CONTACT:** Association of New Jersey Environmental Commissions (ANJEC), 300 Mendham Road, P.O. Box 157, Mendham, NJ 07945.
- ABSTRACT:** This document is a "how-to" manual for planning and organizing recycling programs in multifamily developments , before and after construction.
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RECYCLING

Community Involvement

The documents in this subcategory cover a wide range of methods (such as publicity campaigns and the use of mass media) to encourage public participation in waste management.

It should be noted that many of the documents in the **Integrated Solid Waste Management** category (p. 1) also address community involvement, as do several of those listed under **Recycling/Program Development**.

TITLE: *Conducting a Recycling Program Publicity Campaign (series of pamphlets)*

DATE: February 1985

LENGTH/PRICE: Free

CONTACT: Oregon Department of Environmental Quality, Solid Waste Division, P.O. Box 1760, Portland, OR 97207. Tel: (503) 229-5395.

ABSTRACT: This is a series of brochures published by the Oregon Department of Environmental Quality about conducting a publicity campaign for a recycling program. Different areas addressed include: printed materials, paid advertising, public service advertising, press activities, the education, promotion and notification rule, and building community support.

TITLE: *Getting the Word Out: A Guide to Publicity and Education*

CONTACT: New Jersey Department of Environmental Protection, Office of Recycling, 401 East State Street, CN 414, Trenton, New Jersey 08625. Tel: (609) 292-0331.

ABSTRACT: This pamphlet describes the steps for encouraging community involvement in a recycling program. The document is targeted toward committees composed of government, civic, and service organizations as well as local businesses. Descriptions on how to identify an audience and conduct a mass media campaign are given.

TITLE: *Motivating Recycling*

DATE: 1985

LENGTH/PRICE: 70 pages, \$42.45

CONTACT: RowanTree Enterprises, Box 1613, Stouffville, Ontario, Canada L4A 8A4.

ABSTRACT: This report documents successful and unsuccessful strategies used to motivate participation in the Kitchener, Ontario recycling program. It includes information on: what messages publicity should stress in order to motivate recycling; what types of rewards motivate the highest level of recycling; and how recycling can be made more convenient for residents. The document includes a comprehensive bibliography.

TITLE: *Public Education*

DATE: 1986

LENGTH/PRICE: Free

CONTACT: Massachusetts Department of Environmental Quality Engineering, 1 Winter Street, 9th Floor, Boston, MA 02108. Tel: (617) 292-5856.

ABSTRACT: This pamphlet briefly reviews tools to use in publicity campaigns including flyers and brochures, curriculum, recycling hot lines, newsletters, surveys, and recycling events. Several examples of successful recycling logos are provided.

TITLE: *Publicity and Education for Recycling: An Informative Guide*

AUTHOR: Rickmers-Skislak, Tanis

DATE: 1987

LENGTH/PRICE: 71 pages plus appendices, \$35.00

CONTACT: Tanis Rickmers-Skislak, 3319 Willow Crescent Dr., #32, Fairfax, VA 22030.

ABSTRACT: This book outlines the development of a recycling promotional program. It is divided into three parts: review of existing research and synthesis of the findings, guidelines for planning your program, and an appendix with promotional information. The book serves as a comprehensive guide to all aspects of the promotion of recycling.

TITLE: *Source Separation - the Community Awareness Programs in Somerville and Marblehead, Massachusetts*

DATE: November 1976

SOURCE: Environmental Protection Agency, Office of Solid Waste Management Programs

LENGTH/PRICE: 92 pages, \$14.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB-260 654/9.

ABSTRACT: This report contains the results of studies conducted to determine the feasibility of multi-material source separation in two Massachusetts communities. The report is focused on the community awareness programs that were implemented for each. A concise, general guide to planning and implementing such programs for other communities is also provided.

RECYCLING

Legislation

This section includes documents offering summaries of local and state legislation mandating recycling. Actual laws and ordinances have not been included here.

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- TITLE:** *Legislative Summary: Statewide Recycling Laws*
- DATE:** October 1988
- SOURCE:** Solid Waste Alternatives Project, Environmental Action Foundation
- LENGTH/PRICE:** 22 pages, \$6.00 donation
- CONTACT:** Environmental Action Foundation, 1525 New Hampshire Ave., N.W., Washington, D.C. 20036. Tel: (202) 745-4870.
- ABSTRACT:** A concise summary of laws in ten states (Oregon, Wisconsin, Rhode Island, New Jersey, Connecticut, Massachusetts, New York, Maryland, Florida, and Pennsylvania) that demand some type of mandatory recycling is provided in this paper. The following information is included for each state program: key recycling legislation, major components of the recycling program, materials targeted, recycling goal, funding mechanism, State procurement program, and other market development activities.
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- TITLE:** *Municipal Recycling Ordinances*
- DATE:** December 1985
- CONTACT:** Massachusetts Department of Environmental Quality Engineering, 1 Winter Street, 9th Floor, Boston, MA 02108. Tel: (617) 292-5856.
- ABSTRACT:** This booklet contains a compilation of legislation passed by municipalities requiring recycling, regulating the collection of wastes, prohibiting unauthorized collection, and mandating source separation of waste.
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TITLE: *The New York State Returnable Beverage Container Act: Economic Effects, Industry Adaptation, and Guidelines for Improved Environmental Policy (Working Paper #31)*

DATE: 1988

LENGTH/PRICE: \$2.00

CONTACT: Rockefeller Institute of Government, 411 State St., Albany, NY 12203. Tel: (518) 472-1300.

ABSTRACT: This report examines the effects of New York's bottle bill on the economy, industry, and the environment. It also presents suggestions for improved policy.

RECYCLING

Markets

TITLE: *American Recycling Market Annual Directory/Reference Manual*

DATE: 1989 (published yearly)

LENGTH/PRICE: 344 pages, \$95.00

CONTACT: Recoup Publishing Limited, P.O. Box 577, Ogdensburg, NY 13669. Tel: 1-800-267-0707.

ABSTRACT: This directory includes a glossary, specifications for materials, a list of state agencies, and much more. 7500 listings are provided.

TITLE: *Michigan Secondary Market Development Strategy*

DATE: February 1987

LENGTH/PRICE: \$5.00

CONTACT: Michigan Department of Natural Resources, Resource Recovery Section, P.O. Box 30028, Lansing, MI 48909. Tel: (517) 373-0540.

ABSTRACT: This report provides the tools to overcome barriers to marketing recycled materials. Strategies are recommended for encouraging the purchase of recycled materials, and a summary of an overall strategy for secondary materials markets is included.

TITLE: *The Official Recycled Products Guide*

DATE: Published quarterly

LENGTH/PRICE: Subscription: \$195 a year

CONTACT: Recoup Publishing Limited, P.O. Box 577, Ogdensburg, NY 13669. Tel: 1-800-267-0707.

ABSTRACT: This "buyer's guide" lists manufacturers, distributors and producers of products that use recycled materials. The classified advertisement format lists specifications on the products, including the percent of post-consumer or recovered materials in the product.

TITLE: *Statewide Materials Market Studies (Michigan series)*

DATE: February 1987

LENGTH/PRICE: \$3.00-\$5.00

CONTACT: Michigan Department of Natural Resources, Resource Recovery Section, P.O. Box 30028, Lansing, MI 48909. Tel: (517) 373-0540.

ABSTRACT: This series of reports provides a comprehensive review of the markets for recycled paper, glass, metal, plastic, used oil, and used tires. Sections in the document describe the sources of supply and demand for recovered goods and recycled materials, technologies and costs of processing, potential new markets and new products, and financial and institutional barriers to recycling.

RECYCLING

Waste Exchanges

Waste exchanges are formed to match waste generators with waste users. The goal of these organizations is to recycle waste materials back into the manufacturing process. A waste exchange can offer a variety of services, some of which are listed here:

- **Catalogs** - wanted and available materials are listed as classified advertisements.
- **Waste Exchange Databases** - "on-line" services can provide up-to-the-minute information about waste materials.
- **Recycling Markets Referral Service** - customized lists of recyclers who handle waste materials can be provided.

Waste Information Exchanges in North America Currently Publishing Catalogs (March 1988)

Single-State Exchanges

California Waste Exchange
Mr. Robert McCormick
Department of Health Services
Toxic Substances Control Division
714 P Street
Sacramento, California
(916) 324-1807

Indiana Waste Exchange
Ms. Shelly Whitcomb
Environmental Quality Control, Inc.
P.O. Box 1220
Indianapolis, Indiana 46206
(317) 634-2142

Montana Industrial Waste Exchange
Mr. Don Ingles
Montana Chamber of Commerce
P.O. Box 1730
Helena, Montana 59624
(406) 442-2405

Industrial Waste Information Exchange
Mr. William E. Payne
New Jersey Chamber of Commerce
5 Commerce Street
Newark, New Jersey 07102

Tennessee Waste Exchange
Ms. Janet Goodman
Tennessee Manufacturers and Taxpayers
Association
226 Capitol Blvd., Suite 800
Nashville, Tennessee 37219
(615) 256-5141

Multi-State Exchanges

Great Lakes Regional Waste Exchange
Mr. William Stough
Waste Systems Institute of Michigan, Inc.
470 Market Street, S.W., Suite 100A
Grand Rapids, Michigan 49503
(616) 451-8992

Industrial Materials Exchange Service
Mr. James Mergen
Illinois Environmental Protection Agency
2200 Churchill Road, IEPA/DLPC-24
Springfield, Illinois 62706
(217) 254-5025

Northeast Industrial Waste Exchange
Mr. Lewis M. Cutler
Central New York Regional Planning Board
90 Presidential Plaza, Suite 122
Syracuse, New York 13202
(315) 422-6572

Southeast Waste Exchange
Ms. Mary McDaniel
University of North Carolina
Urban Institute, UNCC Station
Charlotte, North Carolina 28223
(704) 547-2307

Southern Waste Information Exchange
Dr. Roy C. Herndon
Florida State University
P.O. Box 6487
Tallahassee, Florida 32313
(904) 644-5516

Canadian Exchanges

Alberta Waste Materials Exchange
Ms. Karen Beliveau
Alberta Research Council
4th Floor Terrace Plaza
4445 Calgary Trail South
Edmonton, Alberta T6H 5R7
(403) 450-5461

British Columbia Waste Exchange
Ms. Catherine Ryle
Recycling Council of British Columbia
2150 Maple Street
Vancouver, British Columbia V6J 3T3
(604) 731-7222

Canadian Waste Materials Exchange
Dr. Robert Laughlin
Ontario Research Foundation
Sheridan Park Research Community
Mississauga, Ontario L5K 1B3
(416) 822-4111

Manitoba Waste Exchange
Mr. James Ferguson
Biomass Energy Institute, Inc.
1329 Niakwa Road
Winnipeg, Manitoba R2J 3T4
(204) 257-3891.

RECYCLING

Material Specific

TITLE: *Asphalt Pavement Recycling Alternatives*

DATE: 1981

LENGTH/PRICE: 32 pages, \$8.00

CONTACT: Public Technology, Inc., 1301 Pennsylvania Ave., NW, Washington D.C. 20004. Tel: (202) 626-2400; Public Technologies, Inc., Center for Public Policy, California State University, 1250 Bellflower Blvd., Long Beach, CA 90840. Tel: (213) 498-6541.

ABSTRACT: This document explains how existing asphalt pavements can be reused to cut the cost of paving materials. It helps evaluate maintenance alternatives and recycling techniques. Included is a list of product manufacturers and distributors.

TITLE: *Automobile Scrappage and Recycling Industry Study, Overview Report*

AUTHOR: Kaiser, Wasson, and Daniels

DATE: September 1977

SOURCE: U.S. Department of Transportation, Washington, D.C.

LENGTH/PRICE: 409 pages, \$42.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB-273 286/5.

ABSTRACT: The principle factors which influence the recovery of materials from junked automobiles are discussed in this report. These include: a list of recyclable materials; how automobiles become part of the commercial recovery cycle; operations of the auto wrecking industry which salvage serviceable parts; and operations of the scrap industry which takes automobile hulks and makes them into commercial grades of scrap metals. Problems associated with junk cars are also addressed. The report also discusses future trends and research, government policy, and technical analyses.

TITLE: *Directory of Plastic Soft Drink Bottle Recyclers and Equipment Manufacturers*

LENGTH/PRICE: \$1.00

CONTACT: Pennsylvania Resources Council, Inc., P.O. Box 88, Media, PA 19063-0088. Tel: (215) 565-9131.

ABSTRACT: This document lists companies involved in PET plastic bottle recycling, and various manufacturers of equipment used in PET recycling.

TITLE: *The Economic Feasibility of Recycling: A Case Study of Plastic Wastes*

AUTHOR: Curlee, Randall T.

DATE: November 1986

LENGTH/PRICE: 200 pages, \$40.95

CONTACT: Praeger Publishers/Greenwood Press, 88 Post Road West, Box 5007, Westport, CT 06881. Tel: (203) 226-3571.

ABSTRACT: This book addresses the problems and opportunities associated with plastics recycling from an economic perspective, and reviews numerous economic and institutional factors that have not previously been studied.

TITLE: *Energy Use Patterns for Metal Recycling*

AUTHOR: Kusick, C., and C.B. Kenahan

DATE: 1978

SOURCE: U.S. Department of the Interior, Bureau of Mines

LENGTH/PRICE: 196 pages, \$21.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB-284 855/4.

ABSTRACT: This study provides data intended to increase the recycling of selected materials. Data were collected on prompt (in-plant) industrial and obsolete (post-consumer) scrap for nine metal commodities: iron/steel, aluminum, copper, lead, nickel alloys, zinc, titanium, tin and stainless steel. Process routing for recycling was considered beginning with collection through end-use smelting equivalent to a primary metal. Energy balances for scrap reprocessing are detailed.

TITLE: *Household Battery Collection Program*

DATE: September 1988

LENGTH/PRICE: Free

CONTACT: NH/VT Solid Waste Project, Room 336 Moody Building, Claremont, New Hampshire 03743. Tel: (603) 543-1201.

ABSTRACT: The NH/VT Solid Waste Project provides a variety of information regarding their household battery collection program. Of particular interest are the Description of Program (September 1988) and the Analysis of Costs and Recovery Rates of Household Battery Collection in NH/VT Projects. The latter provides critical analysis and cites start-up costs.

TITLE: *How to Set Up a Local Used Oil Recycling Program*

DATE: 1989

CONTACT: EPA, Office of Solid Waste, Washington, D.C. Call RCRA Hotline: 1-800-233-4050.

ABSTRACT: This documents outlines the history and steps for used oil recycling programs. Guidance is provided on local action and project organization, and a section is dedicated to program design and implementation. Also included are ideas for promoting the used oil program and a discussion of administrative issues. Also available are three related brochures: "Used Oil Recycling: What Can You Do?," "Used Oil Recycling: 10 Steps to Change Your Oil;" and "Used Oil Recycling for Service Stations and Other Vehicle Service Facilities."

TITLE: *The Impacts of Lead Industry Economics and Hazardous Waste Regulations on Lead-Acid Battery Recycling: Revision and Update*

DATE: September 1987

SOURCE: EPA, Office of Policy Analysis, Washington, D.C. Call RCRA Hotline: 1-800-424-9346.

LENGTH/PRICE: 46 pages

ABSTRACT: This report presents the results of a follow-up study for EPA entitled "The Impacts of Lead Industry Economics on Battery Recycling." This study reviews the trends in lead-acid battery recycling over two and a half decades and outlines issues that directly influence lead-acid battery rates, such as lead industry economics and environmental regulations.

TITLE: *Multi-Material Recycling Manual*

DATE: 1987, update expected mid-1989

CONTACT: Keep America Beautiful, Inc., 9 West Broad St., Stamford, CT 06902. Tel: (203) 323-8987.

ABSTRACT: This manual deals with the recycling of post-consumer wastes. It provides guidance on program development that has proven successful in the Keep America Beautiful Systems. Specific materials addressed include: aluminum, paper, glass, plastic, scrap iron and steel, used tires, and used oil. A composting section is also included.

TITLE: *Paper Recycling and Its Role in Solid Waste Management*

DATE: 1987

LENGTH/PRICE: 19 pages, Free

CONTACT: Paper Recycling, American Paper Institute, 260 Madison Avenue, New York, NY 10016

ABSTRACT: This booklet discusses the national need for recycling waste paper, different products that can be recycled, how recycled paper is made, and other general recycling information.

TITLE: *Pennsylvania Glass Recycling: A How to Guide*

LENGTH/PRICE: Free

CONTACT: Pennsylvania Glass Recycling Corporation, 509 North Second Street, Harrisburg, PA 17101. Tel: (717) 234-8091.

ABSTRACT: This pamphlet discusses how to develop a community glass recycling program, providing information on collection methods, processing requirements, and glass-container plants that buy recycled glass.

TITLE: *Plastic Bottle Recycling Directory and Reference Guide 1989*

DATE: 1989

LENGTH/PRICE: 24 pages, \$5.00 (2 or more: \$2.00 each)

CONTACT: The Plastic Bottle Institute, Division of the Society of the Plastics Industry, Inc., 1275 K St., N.W. -Suite 400, Washington, D.C. 20005. Tel: (202) 371-5200.

ABSTRACT: This document lists recyclers and equipment manufacturers involved in the recycling of post-consumer bottles.

TITLE: *Plastic Bottle Recycling Today*
DATE: August 1988
LENGTH/PRICE: \$1.00
CONTACT: Plastic Bottle Institute, The Society of the Plastics Industry, Inc., 1275 K Street, NW, Suite 400, Washington, DC 20005. Tel: (202) 371-5200.
ABSTRACT: Information is provided on recycling plastic bottles, methods of recycling, community and private efforts in plastic recycling, and products made from recycled plastics.

TITLE: *Plastics Recycling: Action Plan for Massachusetts*
AUTHOR: Brewer, Gretchen
DATE: July 1988
SOURCE: Massachusetts Department of Environmental Quality Engineering, Division of Solid Waste Management.
LENGTH/PRICE: 108 pages, \$7.65
CONTACT: Available through the State Bookstore, Room 116, State House, Boston, MA 02133.
ABSTRACT: This document presents a plan for developing a plastics recycling program as an alternative for waste disposal.

TITLE: *Recycling Mixed Waste Paper into Innovative Products*
AUTHOR: Anderson, Lipshutz, Cooley, and Savage
DATE: January 1982
SOURCE: U.S. Department of Energy
LENGTH/PRICE: 77 pages, \$7.95
CONTACT: Garbage Reincarnation, Inc., P.O. Box 1375, Santa Rosa, CA 95402. Tel: (707) 584-8666.
ABSTRACT: This report presents preliminary data on uses for mixed grade waste paper. Paper-derived fire logs and agricultural products were determined as potential uses. This report summarizes waste paper grades, firelogs and pellets (technical and economic data), agricultural products (bedding, compost process bulking agents, fiber mulches), cellulose insulation, and construction materials (construction board and molded products).

TITLE: *State Planning for Post-Consumer Plastics Recycling*

AUTHOR: Brewer, Gretchen

DATE: May 1987

SOURCE: Presented at North American Recycling '87, Chicago, Illinois

CONTACT: Massachusetts Department of Environmental Quality Engineering, 1 Winter Street, 9th Floor, Boston, MA 02108. Tel: (617) 292-5856.

ABSTRACT: This document reviews the problems with plastics recycling, and addresses the technical, economic, and social barriers to plastics recycling. The findings contained in the report concern waste composition and technologies of plastic recycling established during the development of a statewide plastics recycling plan.

TITLE: *A Study of the Feasibility of Utilizing Solid Wastes for Building Materials (Phases I - IV)*

AUTHOR: Duft, Levine, and McLeod

DATE: April 1978

SOURCE: U.S. EPA, Municipal Environmental Research Laboratory

LENGTH/PRICE: Prices range from \$21.95 to \$36.95, depending on Phase

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Docs: PB 279 440 and PB 285 437.

ABSTRACT: This series of reports presents data on utilization of solid wastes as building materials. It results from a literature search which evaluated wastes with potential as matrices, reinforcements, or fillers in building composites. From the studies, two types of matrices, furfural-phenolic and inorganic, were selected for further study. Seven reinforcement candidates and five filler candidates were selected for evaluation with the two matrices. Laboratory evaluations and results are included.

TITLE: *Tire Recovery and Disposal: A National Problem With New Solutions*

AUTHOR: McManus, Frank (ed.)

DATE: 1988

LENGTH/PRICE: \$125.00

CONTACT: Available through: Resource Recovery Report, 5313 38th St., N.W., Washington, D.C., 20015. Tel: (202) 362-6034.

ABSTRACT: This book includes chapters devoted to recycling tires for new products, reclamation, energy from tires, shredder manufacturers, new and better highways using rubber, pyrolysis (heating in the absence of air), retreading, and other processors. The study includes a directory of 179 companies, trade associations, individuals, private and government agencies - federal, state, and local - active in scrap tire recovery.

TITLE: *Used Oil: Disposal Options, Management Practices, and Potential Liability, Second Edition*

AUTHOR: Nolan, Harris, and Cavanaugh

DATE: March 1989

LENGTH/PRICE: 186 pages, \$47.00

CONTACT: Government Institutes, Inc., 966 Hungerford Dr. #24, Rockville, MD 20805. Tel: (301) 251-9250.

ABSTRACT: The basic purpose of this book is to explain the market forces affecting used oil, how the used oil recycling system operates, and what steps can be taken to avoid liability (or, if there is insurance coverage, to avoid paying for liability). It also summarizes the history of the federal government's involvement with this issue.

TITLE: *Used Tire Recovery and Disposal in Ohio - Final Report*

AUTHOR: Burgess & Niple, Limited and Waste Recovery, Incorporated

DATE: March 1987

LENGTH/PRICE: 150 pages, Free

CONTACT: Ohio Environmental Protection Agency, Division of Solid and Hazardous Waste Management, Columbus, OH. Tel: (614) 644-3020.

ABSTRACT: This report assesses the used tire recovery/disposal problem in Ohio, using information gathered during mail and telephone surveys. It presents the results from these surveys, evaluates state legislation and recovery/recycling techniques, and provides recommendations for the used tire recovery program.

TITLE: *Waste Tire Utilization*

DATE: March 1987

SOURCE: U.S. Department of Energy

LENGTH/PRICE: 36 pages, \$13.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: DE-88015215.

ABSTRACT: This report discusses the various ways of dealing with the waste tire problem. Topics covered include tire supply considerations, tire-derived fuels, burning waste tires, environmental considerations of tire utilization, and siting.

COMPOSTING

The **General** composting category addresses overall composting program descriptions as well as co-composting and municipal waste composting issues.

Yard Waste composting documents comprise a separate category.

Several documents in the **Integrated Solid Waste Management** category (p. 1) include discussions of composting programs as they relate to other waste management techniques.

For additional information:

- *Decision Making in Local Government: The Resource Recovery Alternative*
- *A Planning Guide for Residential Recycling Programs in Illinois: Drop-Off, Curbside, and Yard Waste Composting*
- *Solid Waste Handbook: A Practical Guide*

General

TITLE: *Agricultural, Sludge, and Solid Waste Composting: Introductory Profiles*

AUTHOR: Fliesler, Nancy

DATE: June 1987

LENGTH/PRICE: 59 pages, Free

CONTACT: Massachusetts Department of Environmental Quality Engineering, 1 Winter Street, 9th Floor, Boston, MA 02108. Tel: (617) 292-5856.

ABSTRACT: This booklet provides case studies of municipal composting facilities engaged in agricultural composting, sludge composting, and solid waste composting. Characteristics of these types of composting as well as references of contacts within these facilities appear in the document.

TITLE: *The BioCycle Guide to Composting Municipal Wastes*
DATE: January 1989
LENGTH/PRICE: \$49.95
CONTACT: Biocycle, Box 351, Emmaus, PA 18041. Tel: (215) 967-4135.
ABSTRACT: This is a comprehensive guide to operating municipal compost facilities. The guide contains information on process requirements, health risks of compost, marketing compost, co-composting of solid wastes, and the composting of industrial, agricultural, and hazardous wastes.

TITLE: *The Co-Composting of Domestic Solid and Human Wastes*
AUTHOR: Obeng, Lettia and Frederick W. Wright
DATE: March 1987
LENGTH/PRICE: 102 pages, \$6.95
CONTACT: World Bank, Publications Department, 701 18th St., N.W., Washington, D.C. 20433. Tel: (202) 473-2939.
ABSTRACT: Although this document has been designed primarily for composting projects in developing countries, the technologies and practices described are, in many cases, applicable to composting projects in the United States. The report describes the composting process, reviews various composting systems, and discusses health aspects such as pathogen destruction. Several cost/benefit models for economic analyses are developed within the report, and computer models are available.

TITLE: *Codisposal of Municipal Solid Waste and Sewage Sludge: An Analysis of Constraints*
AUTHOR: Baldwin, Barnett, Richards, and Price
DATE: 1980
SOURCE: Environmental Protection Agency, Office of Solid Waste
LENGTH/PRICE: 211 pages, \$25.95
CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB80-141484.
ABSTRACT: This report is an overview of the significant issues confronting the integration of municipal solid waste disposal and municipal sewage sludge disposal. An analysis of the technical, economic, and environmental issues of integrated waste disposal (codisposal) facilities is presented.

TITLE: *Compendium on Solid Waste Management by Vermicomposting*
DATE: August 1980
SOURCE: U.S. EPA, Municipal Environmental Research Laboratory, Cincinnati, OH
LENGTH/PRICE: 72 pages, \$15.95
CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB81-109696.

ABSTRACT: This report assesses the technical and economic feasibility of vermicomposting, based on a pilot study in Ogden, Utah (at the date of publication, no full scale vermicomposting operations existed in the United States). The species of earthworm used, the physical parameters of the worm culture and the physical and chemical changes that occur during vermicomposting are described. Cost comparisons and estimates for cities of 50,000 and 500,000 are provided. Vermicomposting is compared to sanitary landfill, windrow composting, and combustion. Markets for the product and its environmental impact are also discussed.

TITLE: *Composting: A Solid Waste Alternative*
LENGTH/PRICE: Free
CONTACT: Michigan Department of Natural Resources, Waste Management Division, Resource Recovery Section, P.O. Box 30028, Lansing, Michigan 48909. Tel: (517) 373-0540.
ABSTRACT: This report summarizes the various composting techniques and their advantages as solid waste management options. It includes general guidelines for several approaches that can be tailored to particular communities.

TITLE: *Composting at Johnson City (Tennessee)*
AUTHOR: Stone, Wiles, and Clemons
SOURCE: Joint U.S. EPA -- Tennessee Valley Authority Project (1975)
DATE: November 1975
LENGTH/PRICE: 360 pages, \$36.95
CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB-261 047/5.
ABSTRACT: The technical feasibility of windrow composting of municipal refuse with or without sewage sludge is established in this report. Sewage sludge, cow paunch, poultry manures, animal blood, and pepper canning wastes in varying amounts were successfully co-composted with municipal refuse.

TITLE: *Composting Processes to Stabilize and Disinfect Municipal Sewage Sludge (Technical Report)*

DATE: July 1981

SOURCE: Environmental Protection Agency, Office of Water Program Operations

LENGTH/PRICE: 55 pages, \$14.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB81-240509.

ABSTRACT: This Bulletin was written to provide guidance for the design and operation of sewage sludge composting facilities, and consists primarily of recommended operational procedures and performance levels related to the composting facilities. The performance levels are flexible to make allowances for innovation in composting system design.

TITLE: *Economics and Feasibility of Co-Composting Solid Wastes in McHenry County (Illinois)*

DATE: July 1987

LENGTH/PRICE: 240 pages

CONTACT: Illinois Department of Energy and Natural Resources Clearinghouse, 325 West Adams St., Room 300, Springfield, IL 62704-1892. Tel: (217) 785-2800. Doc: ILENR/RE-EA-78-12.

ABSTRACT: This study evaluates the feasibility of composting various segments of the waste stream produced in McHenry County, Illinois. In particular, the study emphasizes co-composting of municipal solid waste with septage and sludge, leaf and yard waste composting, and composting various animal wastes.

TITLE: *Master Composter Training Manual*

DATE: Updated yearly

LENGTH/PRICE: 50 pages, \$30.00

CONTACT: Community Compost Education Program, 4649 Sunnyside Avenue North, Seattle, Washington 98103. Tel: (206) 633-0224.

ABSTRACT: This manual covers the evolution of the Community Compost Education Program and the local context, the biology of compost, the essential practices of composting, home composting systems available for different needs and lifestyles, plus education and outreach approaches. The manual is part of a program planning packet containing an education plan, compost demonstration plan, and portable display plans.

TITLE: *Municipal Composting*

SOURCE: Institute for Local Self-Reliance

LENGTH/PRICE: 42 pages, \$5.00

CONTACT: Institute for Local Self-Reliance, 2425 18th St., N.W., Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This paper describes dozens of municipal composting, leaf composting, refuse composting, and sludge composting projects. Includes an annotated list of municipal composting literature, with prices and where to write for copies. It also includes a review of leading state and local ordinances and legislation on composting, lists of municipal composting experts (including government officials, citizen activists, businesses and consultants experienced in compost planning), and a section on how to organize a municipal composting program.

TITLE: *Worms Eat My Garbage*

AUTHOR: Appelhoff, Mary

DATE: 1982

LENGTH/PRICE: 100 pages, \$6.95

CONTACT: Institute for Local Self-Reliance, 2425 18th St., N.W., Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This paper describes how to set up and maintain a worm composting system. It provides a well documented description of successful techniques in small-scale vermicomposting operations.

COMPOSTING

Yard Waste

TITLE: *A Guide for Municipal Leaf Composting Operations*

DATE: 1983

SOURCE: Middlesex County (Minnesota) Department of Solid Waste Management

LENGTH/PRICE: Free

CONTACT: Minnesota Pollution Control Agency, Resource Information Center, 520 Lafayette Rd., St. Paul, MN 55155. Tel: (612) 296-8439.

ABSTRACT: This guide details the planning process and operational guidelines necessary to establish a municipal leaf composting operation and outline key considerations for municipal government.

TITLE: *Landscape Waste Compost: Distribution and Marketing Strategies for Centralized Municipal Composting Operations*

DATE: March 1989

LENGTH/PRICE: 41 pages

CONTACT: Illinois Department of Energy and Natural Resources, Springfield, IL 62704-1892. Tel: (217) 785-2800.

ABSTRACT: This report explains ways to overcome obstacles and use opportunities in the marketing of the composting product. A comprehensive approach to developing the product, which includes each community assessing its needs and capabilities, is recommended. Environmental soundness and economic prudence are stressed.

TITLE: *Leaf Composting - A Guide for Municipalities*

AUTHOR: University of Connecticut Cooperative Extension Service

DATE: January 1989

SOURCE: State of Connecticut Department of Environmental Protection, Local Assistance and Program Coordination Unit, Recycling Program

LENGTH/PRICE: 39 pages

CONTACT: State of Connecticut Department of Environmental Protection, 165 Capitol Avenue, Hartford, CT 06106. Tel: (203) 566-5599.

ABSTRACT: This manual describes how to plan a leaf composting operation in a municipality and provides information on plan development, leaf collection, technical composting issues, and budgeting.

TITLE: *Leaf Composting Guidance Document*

DATE: June 1988

LENGTH/PRICE: 27 pages, Free

CONTACT: Massachusetts Department of Environmental Quality Engineering, 1 Winter Street, 9th Floor, Boston, MA 02108. Tel: (617) 292-5856.

ABSTRACT: This document provides guidance for communities and private operators in establishing a leaf composting program. It discusses siting, designing, and operating composting projects that are environmentally sound and economically feasible.

TITLE: *Leaf Composting Manual for New Jersey Municipalities*

AUTHOR: Strom, Peter and Melvin Finstein

DATE: October 1985

SOURCE: Department of Environmental Science, Cook College and NJ Agricultural Experiment Station, Rutgers, The State University, New Brunswick, New Jersey

CONTACT: New Jersey Department of Environmental Protection, Division of Solid Waste Management, Office of Recycling, 401 East State St., CN 414, Trenton, NJ 08625. Tel: (609) 292-0331.

ABSTRACT: This is a manual for building a large-scale municipal compost facility. The document reviews some of the basic scientific principles of composting and then discusses site selection considerations. Two types of technologies are presented: low level and high level. Low level technology is described in detail showing the steps to convert the yard waste to compost.

TITLE: *The Neighborhood and Centralized Yard Waste Composting Demonstration Projects -- 1982-1983*

AUTHOR: Jeffrey, Elizabeth, et. al.

DATE: June 1984

LENGTH/PRICE: Free

CONTACT: Minnesota Pollution Control Agency, 520 Lafayette Rd., Minneapolis, MN 55155.
Tel: (612) 296-8439.

ABSTRACT: This report describes two demonstration neighborhood yard waste composting programs. The project developed physical structures and the skills necessary to maintain active neighborhood composting sites. The report includes cost information and recommendations on what aspects of the program worked and did not work and why.

TITLE: *The New Jersey Composting Pamphlets*

AUTHOR: Derr, Donn A.

DATE: 1983

SOURCE: Department of Agricultural Economics and Marketing, Cook College, New Jersey Agricultural Experiment Station, Rutgers, the State University of New Jersey, New Brunswick, NJ

LENGTH/PRICE: Free

CONTACT: New Jersey Department of Environmental Protection, Division of Solid Waste Management, Office of Recycling, 401 East State St., CN 414, Trenton, NJ 08625.
Tel: (609) 292-0331.

ABSTRACT: This series of pamphlets addresses such issues as the economics of leaf composting, backyard leaf composting, and using leaf compost.

TITLE: *Study and Assessment of Eight Yard Waste Composting Programs Across the United States*

DATE: December 1988

SOURCE: United States Environmental Protection Agency

CONTACT: Richard Kashmanian, Regulatory Innovations Staff (PM-223), Office of Policy, Planning, and Evaluation, US EPA, 401 M St., S.W., Washington, D.C. 20460.

ABSTRACT: This study looks at the processes and products of yard waste composting in the context of eight programs currently in operation in the United States.

TITLE: *Yard Waste Composting: Implementation Plan*

AUTHOR: Yesney, et al.

DATE: August 1988

LENGTH/PRICE: 110 pages, \$15.00

CONTACT: City of San Jose, Office of Environmental Management, 801 North First Street, Room 460, San Jose, CA 95110. Tel: (408) 277-4509.

ABSTRACT: This document provides a comprehensive analysis of the development of a municipal yard waste composting system. The report includes: (1) an examination of the material as feedstock, along with appropriate means of collection; (2) an identification of potential markets for the end-product; and (3) a review of the processing alternatives to ensure marketable end-products. The report illustrates backyard, neighborhood, and municipal scale composting programs and examines economics, collection, processing, markets, and institutional structures.

TITLE: *Yard Waste Composting: Guidebook for Michigan Communities*

AUTHOR: Appelhof, Mary and Jim McNelly

LENGTH/PRICE: 73 pages plus appendices

CONTACT: Michigan Department of Natural Resources, Waste Management Division, Resource Recovery Section, P.O. Box 30028, Lansing, Michigan 48909. Tel: (517) 373-0540.

ABSTRACT: This guidebook outlines the composting process in detail, including descriptions of the various management options, equipment, and program development techniques. It also presents factors to consider before initiating a compost marketing program. Appendices list equipment vendors, references, and contacts, and provide sample ordinances and program guidelines.

COMBUSTION OF SOLID WASTE

This category addresses several aspects of resource recovery through waste-to-energy facilities. The subcategories are self-explanatory, but it should be noted that additional material on waste-as-fuel facilities can be found in the Integrated Solid Waste Management category (p. 1).

General

TITLE: *1988-89 Resource Recovery Yearbook. Directory and Guide*

DATE: 1988

LENGTH/PRICE: 718 pages, \$350.00

CONTACT: Governmental Advisory Associates, 177 East 87th Street, New York, NY 10128

ABSTRACT: The Yearbook provides in one volume detailed technical information and economic overview of waste-to-energy efforts and practices in the United States. Included are both aggregate, statistical information on the resource recovery industry and specific data pertaining to individual projects. It is divided into three sections: an executive summary, a statistical profile of resource recovery activities in the U.S., and a case-by-case listing of data from each of the 268 facilities examined. The second and third sections have each been subdivided into analyses of conceptually planned resource recovery facilities, advance-planned and existing projects, and permanently shut down plants.

TITLE: *The Burning Question: Garbage Incineration Versus Total Recycling*
AUTHOR: Liong-Ting, Hang W. and S.A. Romalewski
DATE: 1986
LENGTH/PRICE: 177 pages, \$15.00
CONTACT: The New York Public Interest Research Center, Inc., NYPIRC Publications, 9 Murray St., New York, NY 10007. Tel: (212) 349-6460.
ABSTRACT: This report looks at the New York landfill crisis as well as the Brooklyn Navy Yard incinerator proposal and its potential impacts on health and environment. Financial consequences are considered, and total recycling is addressed as an alternative to landfilling and incineration.

TITLE: *Facility Siting and Public Opposition*
AUTHOR: O'Hare, Bacow, and Sanderson
DATE: 1983
SOURCE: Van Nostrand Reinhold Company, Inc.
LENGTH/PRICE: 324 pages, \$36.95
CONTACT: Van Nostrand Reinhold Company, Inc., 7625 Empire Drive, Florence, KY 41042. Tel: (606) 525-6600.
ABSTRACT: This book provides a strategy for avoiding expensive facility siting disputes related to the siting of unpopular facilities in communities. It includes methods for negotiating effectively and guidelines for keeping the public informed without creating opposition. Several case studies are also included.

TITLE: *Garbage Burning -- Lessons from Europe*
AUTHOR: Hershkowitz, Allen
DATE: 1986
LENGTH/PRICE: 44 pages, \$9.95
CONTACT: Inform, Inc., 381 Park Avenue S., Suite 1201, New York, NY 10016. Tel: (212) 689-4040.
ABSTRACT: This booklet highlights safety practices and regulatory issues in waste-to-energy incineration in Europe. It provides an overview of the role incineration plays in each country's solid waste management system. Also covered are surveys of regulatory requirements, emissions monitoring, and worker training at incineration facilities. Pollution issues and government responses are reviewed.

TITLE: *Is Resource Recovery for You?*

AUTHOR: Davis, Ed

DATE: June 1986

CONTACT: Arkansas Energy Office, A Division of the Arkansas Industrial Development Commission, One State Capitol Mall, Little Rock, AK. Tel: (501) 371-1370.

ABSTRACT: This guidance document is used to determine the feasibility of a resource recovery operation. The document provides a general discussion on how to market recovered energy. In addition, the document describes the technical aspects of modular incineration and mentions quantifying waste streams as an important consideration. A section is devoted to routing techniques in waste collection. Worksheets are provided to help determine costs and revenues of a resource recovery operation.

TITLE: *Municipal Incinerators: 50 Questions Every Local Government Should Ask*

DATE: December 1988

LENGTH/PRICE: 54 pages, \$10.00

CONTACT: Publications Department, National League of Cities, 1301 Pennsylvania Ave., N.W., Washington, D.C. 20004. Tel: (202) 626-3000.

ABSTRACT: The purpose of this booklet is to help local officials understand more about incineration and the development of waste-to-energy facilities. It is designed as a road map through the maze of technical, legal and political issues that affect a community's decision to consider incineration as a solid waste disposal option. Topics covered include solid waste management planning, sizing and technology selection, costs, financing, environmental considerations, and community relations.

TITLE: *Pitfalls and Premises of Resource Recovery in Union County New Jersey*

AUTHOR: Seldman, Neil, and Brenda Platt

DATE: January 1989

LENGTH/PRICE: \$100.00

CONTACT: Institute for Local Self-Reliance, 2425 18th St., N.W., Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This report provides an economic and environmental comparison of mass burn, refuse derived fuel, composting, and recycling program implementation. The report is specific to Union County, New Jersey, but the methodology employed is applicable to all areas.

TITLE: *Small-Scale and Low-Technology Resource Recovery Study*
AUTHOR: Mitchell, Peterson, Bowring, and West
DATE: December 1979
SOURCE: EPA, Municipal Environmental Research Lab, Cincinnati, OH
LENGTH/PRICE: 266 pages, \$25.95
CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB80-182694.
ABSTRACT: This study was conducted to assess the applicability of various approaches to resource recovery to selected waste generators. The generators included institutions, commercial sources, office building complexes, multi-unit residences and small cities.

TITLE: *Waste-to-Energy Facilities: A Decision Maker's Guide*
DATE: 1986
LENGTH/PRICE: 76 pages, \$15.00
CONTACT: National League of Cities, 1301 Pennsylvania Ave, N.W., Washington, D.C. 20004.
(202) 626-3030.
ABSTRACT: This volume has been designed to prepare and assist the local decision maker in developing a waste-to-energy facility. In addition to addressing questions regarding management, procurement, the environment and finances, it looks at the technical and marketing decisions that may be unique to waste-to-energy projects.

COMBUSTION OF SOLID WASTE

Economics

It should be noted that several of the documents listed in the **Integrated Solid Waste Management** category (p. 1) specifically address facility economics and financing.

TITLE: *Determining the Economic Feasibility of a Solid Waste Boiler, Guide #4 of Municipal Solid Waste Planning Guides*

DATE: January 1987

LENGTH/PRICE: Free

CONTACT: Pennsylvania Department of Environmental Resources, Bureau of Solid Waste Management, Division of Municipal Services, P. O. Box 2063, Harrisburg, PA 17120. Tel: (717) 787-7382.

ABSTRACT: This booklet is a guidance document to help determine the costs and revenues of a resource recovery facility. The document explains how to identify and locate a supply of combustible waste and to assess the demand for the recovered energy. In addition, the document reviews characteristics of solid waste and combustion technologies available.

TITLE: *Handbook of Financial Options for Waste-to-Energy Systems for Urban Government*

DATE: 1982

LENGTH/PRICE: 95 pages

CONTACT: Public Technology, Inc., 1301 Pennsylvania Ave., NW, Washington D.C. 20004. Tel: (202) 626-2400; Public Technology, Inc., Center for Public Policy, California State University, 1250 Bellflower Blvd., Long Beach, CA 90840. Tel: (213) 498-6541.

ABSTRACT: This document describes options available to local governments planning to construct, own, or operate a facility to produce energy from municipal waste. The handbook summarizes various methods of public and private ownership of waste-to-energy facilities, and suggests issues to be reviewed in determining which ownership option is most advantageous.

COMBUSTION OF SOLID WASTE

Pollution Control

TITLE: *Characterization of Municipal Waste Combustor Ashes and Leachates from Municipal Solid Waste Landfills, Monofills, and Co-disposal Sites*

DATE: October 1987

SOURCE: U.S. EPA, Office of Solid Waste

LENGTH/PRICE: 295 pages, \$28.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB88-127980/XAB.

ABSTRACT: This report provides data to be used by the EPA in evaluating the potential health and environmental effects of leachate from municipal landfills, co-disposed landfills, and monofills, and the ash from municipal waste combustors. For the ash, organic and inorganic constituent content is provided, as are the ranges of polychlorinated dibenzo-dioxins, polychlorinated dibenzofurans, and polychlorinated biphenyls found in the ash. The MSW leachate section includes analysis of the inorganics content using extraction procedure (EP) toxicity, toxicity characteristic leaching procedure (TCLP), monofilled waste extraction procedure (MWEP), as well as inorganic concentration in extracts from MSW ashes. Organic leachates are studied in a similar way, with ranges of organic concentrations provided.

TITLE: *Municipal Solid Waste Incineration: Ash Management and Disposal*

AUTHOR: Seldman, Neil

DATE: April 1987

LENGTH/PRICE: \$12.00

CONTACT: Institute for Local Self-Reliance, 2425 18th St., N.W., Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This is a compilation of approximately 30 different pieces of information on the various aspects of ash management and disposal.

TITLE: *State-of-the Art Flue Gas Cleaning Technologies for Municipal Solid Waste Combustion*

AUTHOR: Brna, T.G.

DATE: March 1988

SOURCE: U.S. EPA, Air and Energy Engineering Research Lab, Research Triangle Park, NC

LENGTH/PRICE: 30 pages, \$12.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB88-184601/XAB.

ABSTRACT: This paper discusses the state-of-the-art flue gas cleaning technologies for municipal solid waste (MSW) combustion. Both in-furnace and post-combustion control methods for limiting acid gases, trace organics, trace heavy metals, nitrogen oxides, and particulates are discussed. Test results are reported, and control technology applications and trends are noted.

COMBUSTION OF SOLID WASTE

Technologies

TITLE: *Commercialization of Fluidized-Bed Combustion*

DATE: 1982

LENGTH/PRICE: 60 pages, \$20.00

CONTACT: Public Technology, Inc., 1301 Pennsylvania Ave., Washington, D.C. 20004. Tel: (202) 626-2400; Public Technology, Inc., Center for Public Policy, California State University, 1250 Bellflower Blvd., Long Beach, CA 90840. Tel: (213) 498-6541.

ABSTRACT: This report discusses institutional factors behind implementing fluidized-bed combustion technology for incinerators. Topics covered include regulatory issues, market assessment, financing, and technologies. The report also provides a comparative cost analysis for investment in this technology.

TITLE: *An Environmental Review of Incineration Technologies*

AUTHOR: Seldman, Neil

DATE: October 1986

LENGTH/PRICE: \$52.00

CONTACT: Institute for Local Self-Reliance, 2425 18th St. N.W., Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This document offers a review of the environmental impacts of incinerators. Topics covered include acid gases, combustion residue, dioxins, and particulates.

TITLE: *Overview of Energy from Municipal Solid Waste Technology; ESW Activities in Iowa and Surrounding States*

DATE: March 1985

SOURCE: Iowa Energy Policy Council, Des Moines

LENGTH/PRICE: 47 pages, \$12.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: DE85900475/XAB.

ABSTRACT: This report presents a brief generic description of the most common technologies used to recover materials and/or energy from municipal solid wastes. Discussed are materials recovery, modular incinerators, waterwall units, rotary incinerators, refuse derived fuel systems, cogeneration, landfill gas recovery and composting (States covered include Iowa, Wisconsin, and Minnesota).

TITLE: *Resource Recovery State-of-the-Art: A Data Pool for Local Decision-Makers*

AUTHOR: Woodruff, Ken, and Neil Seldman

DATE: June 1986

LENGTH/PRICE: \$37.00

CONTACT: Institute for Local Self-Reliance, 2425 18th St., N.W., Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This is a review of the historical use of Mass Burn and Refuse Derived Fuel (RDF) technologies in the United States. Economic and environmental data are provided.

TITLE: *Small-Scale Municipal Solid Waste Energy Recovery Systems*

DATE: 1986

LENGTH/PRICE: 272 pages, \$48.95

CONTACT: Van Nostrand Reinhold, Co., 7625 Empire Dr., Florence, KY 41042. Tel: (606) 525-6600.

ABSTRACT: This reference text book includes chapters on market development, solid waste characterization, energy markets, small-scale technologies, small-scale solid waste-to-energy recovery systems, environmental impacts, and project development.

TITLE: *Solid Waste-To-Energy Technical Manual*

DATE: December 1982

LENGTH/PRICE: Free

CONTACT: Pennsylvania Department of Environmental Resources, Bureau of Solid Waste Management, Division of Municipal Services, Resource Recovery Section, P.O. Box 2063, Harrisburg, PA 17120. Tel: (717) 787-7382.

ABSTRACT: This is a comprehensive manual describing all aspects of waste-to-energy operations including mass burning incineration, refuse derived fuel, cogeneration of steam and electricity, and landfill gas recovery. The manual describes the technology behind these techniques, costs and economic considerations, legal considerations, and options for financing. Several case studies of waste to energy facilities are provided. This manual supplements several other Pennsylvania Guides to Resource Recovery.

TITLE: *Technology Assessment: Municipal Solid Waste as a Utility Fuel. Final Report*

AUTHOR: Naparstek and Cymny

DATE: May 1982

LENGTH/PRICE: 295 pages, \$25.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: DE82905355.

ABSTRACT: This study updates the 1974 EPRI technology assessment of municipal solid waste (MSW) as a utility fuel. An independent and consistent assessment of the development status and conceptual design and economics is presented for the following refuse-to-electricity technologies: mass burning of MSW in a dedicated boiler; preparation of wet RDF and firing in a dedicated boiler; preparation of fluff RDF and cofiring with coal in a utility boiler. In all cases, the generated steam is used to drive a turbine generator and produce electricity. In addition, the status of advanced refuse-to-energy technologies, including pyrolysis, landfill recovery of gas, and anaerobic digestion are reviewed.

TITLE: *Thermal Systems for Conversion of Municipal Solid Waste. Volume 5. Pyrolytic Conversion: A Technology Status Report*

AUTHOR: Kuester, J.L.

DATE: June 1983

SOURCE: Department of Energy, Argonne National Lab

LENGTH/PRICE: 96 pages, \$14.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: DE84003664.

ABSTRACT: This report reviews the state-of-the-art of pyrolytic technologies as applied to municipal-waste feedstocks. Included in the discussion are those pure-pyrolysis and incomplete-combustion processes that produce either a final product or a synthesis gas for further processing. The feedstock resource base is reviewed, and possible options for utilizing the feedstock base for energy production are described. Following a review of fundamental concepts about pyrolysis, descriptions and evaluations of both present and emerging technologies are presented.

LAND DISPOSAL

It should be noted that several documents in the **Integrated Solid Waste Planning** category (p. 1) also address land disposal.

General

TITLE: *City of Portland (Oregon) Solid Waste Management Plan, General Purpose Landfill Chapter*

DATE: March 1988

SOURCE: City of Portland, Oregon

LENGTH/PRICE: Free

CONTACT: METRO, 2000 S.W. First Ave., Portland, OR 97201-5398. Tel: (503) 221-1646.

ABSTRACT: This document reviews the fundamental characteristics of landfills and describes the role landfills play in Portland's solid waste reduction plan.

TITLE: *A Comprehensive Hazardous Waste Exclusion Program at a Municipal Solid Waste Landfill*

AUTHOR: Merry, William

DATE: August 1987

LENGTH/PRICE: 500 pages, \$30.00

CONTACT: Governmental Refuse Collection and Disposal Association, P.O. Box 7219, Silver Spring, MD 20910. Tel: (301) 585-2898.

ABSTRACT: This document discusses a comprehensive hazardous waste exclusion program which also includes a 5 day per week household hazardous waste collection component.

TITLE: *Criteria for Municipal Solid Waste Landfills (40 CFR Part 258). Updated Provisions of State Solid Waste Regulations*

DATE: July 1988

SOURCE: U.S. EPA, Office of Solid Waste

LENGTH/PRICE: \$15.95

CONTACT: National Technical Information Service, Springfield, VA 22161 Tel: (703) 487-4650
Doc: PB88-242458/XAB

ABSTRACT: In August, 1988, the U.S. Environmental Protection Agency proposed Solid Waste Disposal Facilities Criteria (40 CFR Part 258) for municipal solid waste landfills. The background document is the basis for the development of a portion of the Subtitle D criteria. The document presents a review of differences between the proposed criteria and current State and Territorial solid waste regulations. The three specific criteria analyzed for in the document include (1) facility design (liners, leachate collection systems, and final covers), (2) ground-water monitoring, and (3) corrective action. The three aspects were compared to State regulations to determine whether the state had standards addressing these three areas, whether the State has the regulatory ground work that would allow the implementation or the development of the criteria.

TITLE: *Landfill Salvage*

SOURCE: Institute for Local Self-Reliance

LENGTH/PRICE: 6 pages, \$1.00

CONTACT: Institute for Local Self-Reliance, 2425 18th St., N.W., Washington, D.C. 20009. Tel: (202) 232-4108.

ABSTRACT: This short report describes the landfill salvage process (recovering materials from existing landfills) and profiles four representative operations, with addresses and phone numbers to contact for more information.

TITLE: *Process Design Manual: Municipal Sludge Landfills*

AUTHOR: Walsh, J.

DATE: October 1978

LENGTH/PRICE: \$36.95

CONTACT: National Technical Information Service, Springfield, VA 22161 Tel: (703) 487-4650
Doc: PB-299 675/9

ABSTRACT: This manual provides general guidance and a source of information to be used in the planning, design, and operation of a landfill receiving municipal wastewater treatment plant sludge. Major alternative sludge landfilling methods are identified and described. Guidance is given on the selection of the landfilling method which is best suited for a given combination of sludge characteristics and site conditions. For each landfilling method, the following features are addressed: public participation program, site selection, design, operation, monitoring, completed site management, and costs.

LAND DISPOSAL

Technologies

See also:

- *Characterization of Municipal Waste Combustor Ashes and Leachates from Municipal Solid Waste Landfills, Monofills, and Co-disposal Sites* (p. 58)

TITLE: *Critical Factors Controlling Vegetation Growth on Completed Sanitary Landfills*

AUTHOR: Gilman, E.F.; Leon, I.A.; and Flower, F.B.

DATE: September 1981

SOURCE: EPA, Municipal Environmental Research Lab., Cincinnati, OH

LENGTH/PRICE: 213 pages, \$21.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB81-246324.

ABSTRACT: This study identifies some of the critical factors that affect tree and shrub growth on reclaimed sanitary landfill sites and determines which woody species are adaptable to the adverse growth conditions of such sites. Trees planted at the Edgeboro Landfill, East Brunswick, New Jersey produced less shoot and stem growth and shallower roots than trees on the adjacent control plot. Of 19 woody species planted 4 years ago on a 14-year-old landfill, black gum and Japanese black pine proved to be the most tolerant and green ash and hybrid poplar the least tolerant to landfill conditions. Root systems of the more tolerant species proved to be shallower than those of the landfill intolerant species.

TITLE: *Critical Review and Summary of Leachate and Gas Production from Landfills*

DATE: August 1986

SOURCE: U.S. EPA

LENGTH/PRICE: 182 pages, \$21.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB86-240181/XAB.

ABSTRACT: A Cooperative Agreement between the Municipal Environmental Research Laboratory and the Georgia Institute of Technology was established in 1983 to provide an evaluation of the state-of-the-art in municipal waste, landfill leachate and gas management. Summaries of full-scale and experimental-scale data on leachate and gas characteristics, control methods, and the performance of a number of biological and physical-chemical treatment alternatives have been developed and are presented together with recommendations for process implementation and future research.

TITLE: *DRASTIC: A Standardized System for Evaluating Groundwater Pollution Potential Using Hydrogeologic Settings*

AUTHOR: Aller, Bennett, Lehr, and Petty

DATE: May 1985

SOURCE: EPA, Environmental Research Lab, Ada, OK

LENGTH/PRICE: 180 pages, \$21.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB85-228146.

ABSTRACT: A methodology is described that will allow the pollution potential of any hydrogeologic setting to be systematically evaluated anywhere in the United States. The system has two major portions: the designation of mappable units, termed hydrogeologic settings, and the superposition of a relative rating system called DRASTIC. The relative ranking scheme uses a combination of weights and ratings to produce a numerical value which helps prioritize areas with respect to ground water contamination vulnerability.

TITLE: *Design and Construction of Covers for Solid Waste Landfills*

AUTHOR: Lutton R.J.; G. L. Regan; and L. W. Jones

DATE: August 1979

SOURCE: EPA, Municipal Environmental Research Lab, Cincinnati, OH

LENGTH/PRICE: 276 pages, \$28.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB80-100381.

ABSTRACT: The report provides guidelines in selection, design, and construction of cover for management of municipal, industrial, and hazardous wastes (with the exception of radioactive wastes). Natural soils as cover are the principal subject; however, synthetic membranes, chemicals, and waste products are also discussed in detail. Procedures are presented for designing soil cover systems based on principles of soil mechanics and the state of the art in soil construction.

TITLE: *Detecting Landfill Leachate Contamination Using Remote Sensors*

AUTHOR: Sangrey, Dwight A., and Warren R. Philipson

DATE: September 1979

SOURCE: EPA, Environmental Monitoring and Support Lab, Las Vegas, NV

LENGTH/PRICE: 78 pages, \$15.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB 80-174295.

ABSTRACT: A methodology for using remote sensing to detect landfill leachate contamination of ground and surface water is described. Among the topics covered are leachate indicators, spatial and temporal aspects of leachate detection, sensor selection, flight design, and data interpretation. Specific methodologies for using remote sensing to detect leachate under various situations are described. These range from survey monitoring of individual landfills to comprehensive programs for regulatory monitoring of landfills.

TITLE: *Evaluation of Municipal Solid Waste Landfill Cover Designs*

AUTHOR: Dwyer, J.R. et al.

DATE: December 1986

SOURCE: EPA, Hazardous Waste Engineering Lab., Cincinnati, OH

LENGTH/PRICE: 133 pages, \$21.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB88-171327.

ABSTRACT: The HELP (Hydrologic Evaluation of Landfill Performance) Model was used to evaluate the hydrologic behavior of a series of one-, two-, and three-layer cover designs for municipal solid waste landfill cover designs were chosen to isolate the effects of features such as surface vegetation, thickness, soil type and hydraulic conductivity of the layers on the average annual runoff, cover percolation, evapotranspiration, and lateral drainage. Included are discussions on animal and vector control, subsidence, gas control, and cost.

TITLE: *Groundwater Contamination Response Guide. Volume 2. Desk Reference*

AUTHOR: Guswa, J.H. et al.

DATE: June 1983

SOURCE: Air Force Engineering and Services Center, Tyndall AFB, FL

LENGTH/PRICE: 325 pages, \$36.95

CONTACT: National Technical Information Services, Springfield, VA 22161. Tel: (703) 487-4650. Doc: AD-A131 129/9.

ABSTRACT: This technical report documents an overview of groundwater hydrology and a current technology review of equipment, methods, and techniques used in groundwater field investigations. Numerous topics applicable to the planning, scheduling, data collection, and integration steps essential in a comprehensive field program are addressed. The report is targeted for installation engineers and managers responsible for evaluation of or response to suspected instances of groundwater contamination.

TITLE: *Hydrologic Evaluation of Landfill Performance (HELP) Model*

AUTHOR: Schroeder, et al.

DATE: June 1984

SOURCE: EPA Municipal Environmental Research Lab, Cincinnati, OH

LENGTH/PRICE: 2 volumes; Volume I: \$21.95, Volume II: \$28.95

CONTACT: National Technical Information Service, Springfield, VA 22161 Tel: (703) 487-4650.
Doc: PB85-100840 (Volume I), PB85-100832 (Volume II).

ABSTRACT: The Hydrological Evaluation of Landfill Performance (HELP) program was developed to facilitate rapid economical estimation of the amounts of surface runoff, subsurface drainage, and leachate that may be expected to result from the operation of a wide variety of possible landfill designs. The program models the effects of hydrological processes including precipitation, surface storage, runoff, infiltration, percolation, evapotranspiration soil moisture storage, and lateral drainage. In this document, the theories and assumption upon which the HELP model is based, the solution techniques employed, and the internal logic of the computer program are presented and discussed in detail.

TITLE: *Practical Guide for Ground-Water Sampling*

AUTHOR: Barcelona, M.J. et al.

DATE: September 1985

SOURCE: EPA, Robert S. Kerr Environmental Research Lab, Ada, OK

LENGTH/PRICE: 184 pages, \$21.95

CONTACT: National Technical Information Service, Springfield, VA 22161 Tel: (703) 487-4650.
Doc: PB86-137304/XAB.

ABSTRACT: The report concerns both laboratory and field testing of sampling materials and sampling mechanisms with an emphasis on minimizing error, particularly for volatile organic compound sampling and analysis. The essential elements of effective ground-water sampling include evaluation of the hydrogeologic setting and program information needs, proper well-placement and construction, evaluation of well-performance and purging strategies, design and execution of sampling and analytical protocols.

TITLE: *Resource Conservation and Recovery Act (RCRA) Ground-Water Monitoring Technical Enforcement Guidance Document*

DATE: September 1986

SOURCE: EPA, Office of Waste Programs Enforcement

LENGTH/PRICE: 332 pages, \$36.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB87-107751/XAB.

ABSTRACT: This report is a detailed presentation of the elements and procedures which the U.S. Environmental Protection Agency deems essential to the design and operation of ground-water monitoring systems that meet the goals of the Resource Conservation and Recovery Act (RCRA) and its regulations. The essence of the guidance is that ground-water monitoring systems should be designed and operated to meet site-specific conditions, and founded on a good understanding of local hydrogeology. Further, the system should be designed and constructed to provide samples of ground water minimally affected by sampling activity.

TITLE: *Use of the Water Balance Method for Predicting Leachate Generation from Solid Waste Disposal Sites*

AUTHOR: Fenn, D.G.; K.J. Hanley; and T.V. DeGeare

DATE: 1975

SOURCE: U.S. EPA

LENGTH/PRICE: 44 pages, \$13.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650. Doc: PB87-194643/XAB.

ABSTRACT: Recognizing the importance of percolation in the environmental assessment of a potential leachate problem at a land disposal site, this paper analyzes the factors effecting percolation and its relationship to leachate generation and discusses a methodology to estimate leachate generation. The methodology is based on the water balance method commonly used in the soil and water conservation fields.

EDUCATIONAL PROGRAMS/CURRICULA

This category is reserved specifically for school curricula and teacher's guides. It includes classroom activity plans for grades K through 12. Topics covered include recycling, resource recovery, source reduction, energy conservation, and composting.

TITLE: *A-Way With Waste - A Waste Management Curriculum for Schools, 2nd Edition*

AUTHOR: Washington State Department of Ecology, Litter Control & Recycling Program, Washington State Environmental Education, Northwest Section, and Washington Superintendent of Public Instruction

DATE: July 1985

LENGTH/PRICE: 352 pages

CONTACT: Jan Lingenfelter, A-Way With Waste, Washington State Department of Ecology, 4350 150th Avenue, NE, Redmond, WA 98052. Tel: (206) 885-1900.

ABSTRACT: This curriculum provides teachers with activities to promote awareness of waste management for grades K - 12. It is organized around four concepts of waste management: revise, reuse, recycle, and recover. This guide also includes options for school recycling programs.

TITLE: *Connections: A Curriculum in Appropriate Technology for the Fifth and Sixth Grades*

DATE: 1980

SOURCE: National Center for Appropriate Technology

LENGTH/PRICE: 109 pages, \$2.30

CONTACT: Available from the Environmental Education Project, Portland State University, P.O. Box 751, Portland, OR 97207.

ABSTRACT: This program is designed to teach fifth and sixth graders to recognize and use appropriately-scaled technologies. Recycling is the theme of several lesson plans.

TITLE: *A Curriculum Activities Guide to Solid Waste and Environmental Studies*

LENGTH/PRICE: \$12.00

CONTACT: Institute for Environmental Education, 8911 Euclid Ave., Cleveland, OH 44106.

ABSTRACT: This document outlines 37 activities that provide for a general understanding of environmental studies and solid waste management. It provides a framework for further study and exploration of more technical works on the subject (addresses grades K-12).

TITLE: *Environmental Education Activities Manual*

LENGTH/PRICE: \$13.00

CONTACT: Available from Dorothy Cox, 32493 Shady Ridge Drive, Farmington Hills, MI 48018.

ABSTRACT: This guide contains 300 activities written by teachers for teachers. Complete grade level activities are geared to help the learner understand basic environmental education concepts, develop needed problem-solving skills, clarify environmental values, and become involved in community problem-solving actions. Activities are arranged by grade levels K-12.

TITLE: *Garbage in America*

AUTHOR: Refuse Industry Productions, Inc.

DATE: 1988

LENGTH/PRICE: \$119.95 (for K-12 and 6 Color Books)

CONTACT: Refuse Industry Productions, Inc., P. O. Box 1011, Grass Valley, CA 95945. Tel: (916) 272-7289.

ABSTRACT: This program presents a comprehensive recycling and environmental education program for all grade levels. It is designed to provide students information about solid waste problems and how to deal with these problems, natural resources, and the environment. Supplemental coloring books are offered.

TITLE: *Garbage Reincarnation: Curriculum Guide for 4th, 5th, and 6th Grade Teachers to be Used to Teach Solid Waste Management Techniques and Recycling (Revised)*

AUTHOR: Cotter, Dan

DATE: 1987

SOURCE: Garbage Reincarnation, Inc.

LENGTH/PRICE: 40 pages, \$5.95

CONTACT: Garbage Reincarnation, Inc., P.O. Box 1375, Santa Rosa, CA 95402. Tel: (707) 584-8666.

ABSTRACT: This guide provides a comprehensive curriculum for teaching waste management and recycling methods to 4th - 6th grades. It is currently being used in 14 states and all of western Canada.

TITLE: *Here Today, Here Tomorrow - Revisited: A Teacher's Guide to Solid Waste Management*

AUTHOR: New Jersey Department of Environmental Protection

LENGTH/PRICE: 77 pages

CONTACT: New Jersey Department of Environmental Protection, Division of Solid Waste, Management, Education Program, CN 414, 401 E. State Street, Trenton, NJ 08625

ABSTRACT: This guide provides teachers with student activities to increase the general awareness of solid waste management, including source reduction, recycling, resource recovery, landfilling, and anti-litter.

TITLE: *Household Hazardous Waste Educational Program Kit*

AUTHOR: Smith, Terri

DATE: 1988

CONTACT: Terri Smith, Health Education Specialist, San Bernardino County, EPWA, 385 No. Arrowhead Ave., San Bernardino, CA 92415-0160. Tel: (714) 387-4646.

ABSTRACT: This kit includes handbook, video for students, poster, teacher's guide, worksheets, and student souvenirs to teach about the importance of proper management of household hazardous waste.

TITLE: *Let's Recycle! Lesson Plans for Grades K-6 and 7-12*
DATE: 1980
SOURCE: United States Environmental Protection Agency
LENGTH/PRICE: 33 pages
CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
ABSTRACT: This document explains dozens of activities for the classroom and for students in the community.

TITLE: *Making a Difference: A Curriculum Process Guide for Community Environmental Problem-Solving Projects*
SOURCE: Conservation Consultants
LENGTH/PRICE: \$8.75
CONTACT: Available from Resource Recycling, P.O. Box 10540, Portland, OR 97210. Tel: (503) 227-1319.
ABSTRACT: This is a step-by-step plan for conducting a community problem-solving project, including recycling. High school students work from real problems or issues.

TITLE: *Oscar's Options, Book I and Book II*
AUTHOR: Bell, Carole O. and Martha M. Schwartz
DATE: 1986, 1987
LENGTH/PRICE: Book I, 119 pages; Book II 147 pages; \$50.00 each book
CONTACT: Ocean State Cleanup and Recycling (OSCAR), Rhode Island Department of Environmental Management, 83 Park St., Providence RI 02903.
ABSTRACT: OSCAR'S OPTIONS is a two volume, supplementary environmental education curriculum targeting grades four through eight. Book I treats three topics: natural resources, litter, and household waste. Book II is the solid waste volume containing units on landfilling, incineration, recycling, compost, and source reduction. Each unit includes background information, lesson plans in all subject areas (reading, language arts, science, social studies, and math), vocabulary, transparencies, and supplementary brochures and magazines.

TITLE: *Resource Recovery: Teacher's Aide*

DATE: June 1980

LENGTH/PRICE: Free

CONTACT: Solid Waste Program, Florida Department of Environmental Regulation, 2600 Blair Stone Rd., Tallahassee, FL 32301. Tel: (904) 488-4805.

ABSTRACT: This document introduces the instructor to the developing area of solid waste resource recovery. The package contains definitions, methods, causes and effects, costs, and benefits of resource recovery presented in the form of behavioral objectives suitable for use in curricula of Grades 4-12.

TITLE: *Reusable Math*

LENGTH/PRICE: \$3.50

CONTACT: Pennsylvania Resources Council, Inc., P.O. Box 88, Media, PA 19063-0088 Tel:(215) 565-9131

ABSTRACT: This book contains math problems relating to recycling for grades 1-8.

TITLE: *Teacher's Guide: Educational Materials in Resource Recovery: Grades K-12*

AUTHOR: Berg, Cathy

DATE: June 1984

LENGTH/PRICE: Free

CONTACT: Minnesota Pollution Control Agency, Division of Solid and Hazardous Waste, 520 Lafayette Rd., St.Paul, MN 55155. Tel: (612) 296-8439.

ABSTRACT: This document provides an extensive list of resources available to teachers relating to resource recovery education. It lists curricula, books, and films on a variety of topics and is an excellent source of further educational information.

TITLE: *Waste: A Hidden Resource*

AUTHOR: Tennessee Valley Authority

DATE: February 1989

LENGTH/PRICE: \$50.00

CONTACT: Keep America Beautiful, Inc., Curriculum, 9 West Broad St., Stamford, CT 06902.
Tel: (203) 323-8987.

ABSTRACT: This is a comprehensive secondary school curriculum developed by the Tennessee Valley Authority for grades 7-12.

HOUSEHOLD HAZARDOUS WASTES

This category includes documents that address household hazardous waste definition, education, and management.

TITLE: *Alameda County Pilot Collection Program for Household and Small Generators of Hazardous Waste*

AUTHOR: Emy Chan Meiorin

DATE: April 1988

LENGTH/PRICE: 190 pages, \$22.50

CONTACT: Association of Bay Area Governments, P.O. Box 2050, Oakland, CA 94604-2050.
Tel: (415) 464-7941.

ABSTRACT: This publication follows collection programs held in the San Francisco Bay Area from their start-up in 1983. Tables within the document compare collection program financing, participation rates, waste generation rates, etc.

TITLE: *Alternatives to Landfilling Household Toxics*

DATE: 1987

SOURCE: Golden Empire Planning Center

LENGTH/PRICE: \$18.50

CONTACT: Local Government Commission, 909 12th St., Suite #203, Sacramento, CA 95814.
Tel: (916) 448-1198.

ABSTRACT: This book focuses on alternatives to using landfills and discusses options employed by various programs across the country.

TITLE: *Bibliography on Household Hazardous Wastes*
DATE: October 1988
LENGTH/PRICE: \$22.00
CONTACT: Tufts University, Curtis Hall, Center for Environmental Management, 474 Boston Ave., Medford, MA 02155. Tel: (617) 381-3486.
ABSTRACT: This document is a comprehensive bibliography on sources regarding household hazardous wastes. Contained in the bibliography are books and publications, articles, curriculum and educational materials, and state reports on all aspects of identifying and disposing of household hazardous wastes.

TITLE: *Bury It in the Back: Hazardous Waste Disposal of Used Automobile Oil*
DATE: 1981
LENGTH/PRICE: \$5.00
CONTACT: MASSPIRG Education Fund/Publications, 37 Temple Place, Boston, MA 02111. Tel: (617) 292-4800.
ABSTRACT: Reports on the effects of improper disposal of waste oil. Focuses on the do-it-yourself oil changer and the retail outlets where the automotive oil is bought.

TITLE: *City of Santa Monica 1986 Toxics Round-Up Day Report*
DATE: June 1986
SOURCE: Santa Monica Department of General Services Water/Wastewater Division
CONTACT: Water/Wastewater Division, Department of General Services, 1685 Main Street, Santa Monica, CA 90406-3295. Tel: (213) 458-8224.
ABSTRACT: This report discusses the planning, implementation, and results of Santa Monica's 1986 household and small business hazardous waste collection.

TITLE: *Disposal -- Do It Right*
LENGTH/PRICE: Free (2 pamphlets)
CONTACT: Household Products Disposal Council, 1625 Eye Street, NW, Suite 500, Washington, D.C. 20006. Tel: (202) 659-5535.
ABSTRACT: This document contains information developed by the manufacturers of certain household hazardous waste products.

TITLE: *A Guide to the Safe Use and Disposal of Hazardous Household Products*
DATE: 1982
LENGTH/PRICE: 50 pages, \$6.00
CONTACT: Metropolitan Area Council, 110 Tremont Street, Boston, MA 02108. Tel: (617) 451-2770.
ABSTRACT: This is a 50-page handbook on common household products with tips on a collection project and a bibliography.

TITLE: *Hazardous Waste from Minnesota Households: The Final Report of the Household Hazardous Waste Pilot Collection Project*
AUTHOR: Ridgley, Susan
DATE: 1987
LENGTH/PRICE: Free
CONTACT: Minnesota Pollution Control Agency, Division of Solid and Hazardous Waste, 520 Lafayette Road, St. Paul, MN 55155. Tel: (612) 297-1453.
ABSTRACT: This extensive report discusses various methods of collection projects and management options available for household hazardous waste. The report analyzes public opinion surveys conducted by telephone and at collection sites. It also presents data on waste collected at various programs and gives the demographics of the participants. Also included are collection project participation rates, a waste frequency analysis, total waste collected by product type and much more. The report concludes with recommendations for future action and legislation activity.

TITLE: *Household Hazardous Waste Bibliography of Useful References and List of State Experts*
DATE: March 1988
SOURCE: EPA, Office of Solid Waste
LENGTH/PRICE: Free
CONTACT: EPA, Office of Solid Waste, Washington, D.C. Call RCRA Hotline: 1-800-424-9346.
ABSTRACT: This bibliography lists resources and contacts for household hazardous waste programs.

TITLE: *Household Hazardous Waste Collection Programs*
DATE: 1988
LENGTH/PRICE: \$22.00
CONTACT: Center of Environmental Management, Tufts University, 474 Boston Avenue, Curtis Hall, Medford, MA 02155. Tel: (617) 381-3486.
ABSTRACT: This document presents a summary of EPA's Household Hazardous Waste Collection Program conference and background material developed by CEM

TITLE: *Household Hazardous Waste Disposal Project - Summary Report*
AUTHOR: Galvin, David V. and Susan M. Ridgely
DATE: December 1982
LENGTH/PRICE: \$3.50
CONTACT: METRO, Municipality of Metropolitan Seattle, Exchange Building, Metro Mailstop 81, 821 Second Avenue, Seattle, WA 98104. Tel: (206) 447-5875.
ABSTRACT: This is a report of Seattle's household hazardous waste collection program. The document reviews the legal framework of the program and examines pesticides, paint products, household cleaners, and automotive products for their content, health effects, and environmental fate.

TITLE: *Household Hazardous Waste Management in North America and Europe*
AUTHOR: Goldberg, Jeannie S.
DATE: January 1987
LENGTH/PRICE: \$4.00
CONTACT: Water Quality Division, Municipality of Metropolitan Seattle, Exchange Building, 821 Second Avenue, Seattle, WA 98104. Tel: (206) 684-1233.
ABSTRACT: This document is a survey of selected household hazardous waste programs in North America and Europe.

TITLE: *Household Hazardous Waste Wheel*

LENGTH/PRICE: \$2.05-\$3.75 (depending on quantity ordered)

CONTACT: Environmental Hazards Management Institute, P.O. Box 283, 137 High DSt.,
Portsmouth, NH 03801. Tel: (603) 436-3950.

ABSTRACT: This device is designed to provide a quick way of obtaining information on a variety of household hazardous wastes. For each waste category (e.g., oven cleaners, antifreeze) the wheel indicates the chemical constituents, hazardous ingredients, alternative products, hazardous properties, and waste management techniques. It could be used as part of any education program on household hazardous wastes. Bulk orders are available.

TITLE: *Household Hazardous Wastes: Feasibility of Operating a Collection and Disposal Assistance Program*

AUTHOR: Illinois Environmental Protection Agency

DATE: March 1989

LENGTH/PRICE: 24 pages

CONTACT: Illinois Environmental Protection Agency, 2200 Churchill Road, P.O. Box 19276,
Springfield, IL 62794-9276. Doc. # IEPA/ENV/89-066

ABSTRACT: This report outlines the problem of finding environmentally appropriate disposal of unwanted hazardous or toxic household products. It also presents an overview of the regulatory status of such wastes and different collection/disposal programs. This report includes pilot projects conducted by the Agency and their findings and recommendations.

TITLE: *Michigan Household Hazardous Substance Handbook*

DATE: 1986

LENGTH/PRICE: \$15.00

CONTACT: Ecology Center of Ann Arbor, 417 Detroit Street, Ann Arbor, MI 48104. Tel: (313) 761-3186.

ABSTRACT: The handbook is designed to serve as a resource for people frequently contacted by the public for information on household hazardous substances and wastes.

TITLE: *Survey of Household Hazardous Wastes and Related Collection Programs*

AUTHOR: Mitchell, Demichelis, Marshall, and Flaherty

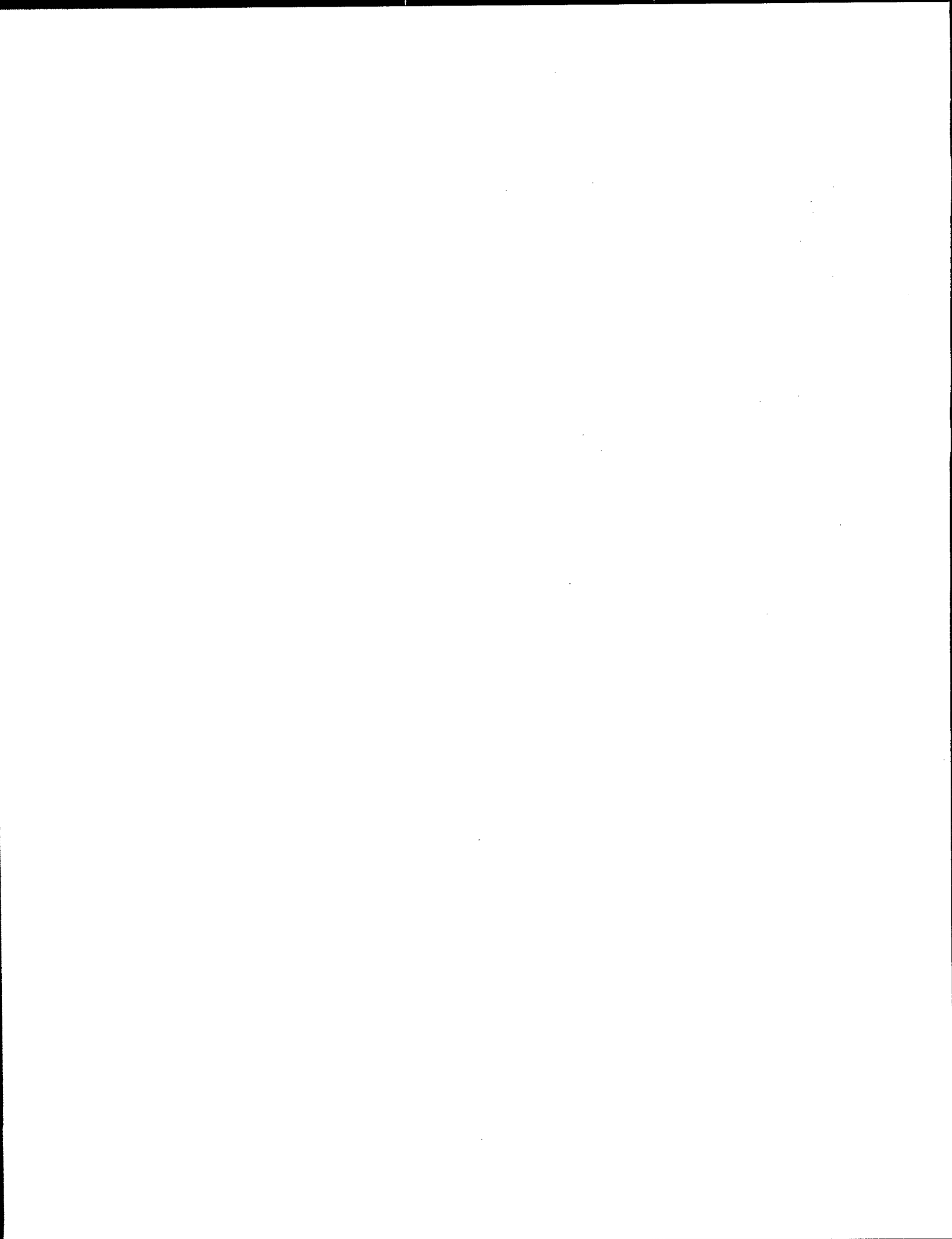
DATE: October 1986

SOURCE: EPA, Office of Solid Waste and Emergency Response, Washington, D.C.

LENGTH/PRICE: 134 pages, \$21.95

CONTACT: National Technical Information Service, Springfield, VA 22161. Tel: (703) 487-4650.
Doc: PB87-108072/XAB.

ABSTRACT: This report summarizes the results of a study that addressed: the definition of household hazardous wastes (HHW); the quantities of HHW in the municipal waste stream, the impacts of HHW on homeowners, solid waste collection and disposal personnel, and the environment; and HHW collection programs conducted at State and local levels. A standard definition of HHW was developed and lists of household products that may be considered HHW, when discarded, are given. Several instances of injuries to sanitation workers resulting from handling HHW are documented.



LIST OF TITLES

<u>TITLE</u>	<u>PAGE</u>
Agricultural, Sludge, and Solid Waste Composting: Introductory Profiles	55
Alameda County Pilot Collection Program for Household and Small Generators of Hazardous Waste	90
Alternatives to Landfilling Household Toxics	90
American Recycling Market Annual Directory/Reference Manual	43
Asphalt Pavement Recycling Alternatives	47
Automobile Scrappage and Recycling Industry, Overview Report	47
A-Way with Waste - A Waste Management Curriculum for Schools	84
Balers for Volume Reduction	18
Beyond the Crisis: Integrated Solid Waste Management	1
Bibliography on Household Hazardous Wastes	91
The BioCycle Guide to Composting Municipal Wastes	56
The Burning Question: Garbage Incineration Versus Total Recycling	65
Bury It in the Back: Hazardous Waste Disposal of Used Automobile Oil	91
Case Studies in Rural Solid Waste Recycling	36
Characterization of Municipal Solid Waste in the United States, 1960 to 2000	9
Characterization of Municipal Waste Combustor Ashes and Leachates from Municipal Solid Waste Landfills, Monofills, and Co-disposal Sites	69
Characterization of Products Containing Lead and Cadmium in Municipal Solid Waste in the United States, 1970 to 2000	10
City of Portland (Oregon) Solid Waste Reduction Program	2
City of Portland (Oregon) Solid Waste Management Plan, General Purpose Landfill Chapter	75
City of Santa Monica 1986 Toxics Round-Up Day Report	91
The Co-Composting of Domestic Solid and Human Wastes	56
Codisposal of Municipal Solid Waste and Sewage Sludge: An Analysis of Constraints	56
Coming Full Circle, Successful Recycling Today	21
Commercialization of Fluidized-Bed Combustion	71
The Commonwealth Solid Waste Masterplan: Toward a System of Integrated Solid Waste Management	2
Community-Based Waste Recycling	28
Compendium on Solid Waste Management by Vermicomposting	57
The Complete Guide to Planning, Building and Operating a Multi-Material Theme Center	28
Composting: A Solid Waste Alternative	57

<u>TITLE</u>	<u>PAGE</u>
Composting at Johnson City (Tennessee)	57
Composting Processes to Stabilize and Disinfect Municipal Sewage Sludge (Technical Report)	58
A Comprehensive Hazardous Waste Exclusion Program at a Municipal Solid Waste Landfill	75
Conducting a Recycling Program Publicity Campaign (series of pamphlets)	38
Connections: A Curriculum in Appropriate Technology for the Fifth and Sixth Grades	84
Criteria for Municipal Solid Waste Landfills (40 CFR Part 258). Updated Provisions of State Solid Waste Regulations	76
Critical Factors Controlling Vegetation Growth on Completed Sanitary Landfills	78
Critical Review and Summary of Leachate and Gas Production from Landfills	79
Curbside Collection of Recyclables	19
A Curriculum Activities Guide to Solid Waste and Environmental Studies	85
Decision-Maker's Guide in Solid Waste Management	2
Decision-Making in Local Government: The Resource Recovery Alternative	3
Design and Construction of Covers for Solid Waste Landfills	80
Designing for Profit in Recycling	22
Detecting Landfill Leachate Contamination Using Remote Sensors	80
Determining the Economic Feasibility of a Solid Waste Boiler, Guide #4 of Municipal Solid Waste Planning Guides	68
Development and Pilot Test of an Intensive Municipal Solid Waste Recycling System for the Town of East Hampton	22
Directory of Plastic Soft Drink Bottle Recyclers and Equipment Manufacturers	48
Directory of Waste Utilization Technologies in Europe and the United States	3
Disposal -- Do It Right	91
DRASTIC: A Standardized System for Evaluating Groundwater Pollution Potential Using Hydrogeologic Settings	79
The Economic Feasibility of Recycling: A Case Study of Plastic Wastes	48
Economics and Feasibility of Co-composting Solid Wastes in McHenry County (Illinois)	58
Energy Use Patterns for Metal Recycling	48
Environmental Education Activities Manual	85
An Environmental Review of Incineration Technologies	71
Environmental Risk Discussion of Solid Waste Management Systems	3
Environmental Shopping Guide	15
Estimating Composition and Quantities of Solid Waste Generation; Guide #1 in a Series of Municipal Solid Waste Planning Guides	14
Estimating Solid Waste Transportation Costs, Guide #2 in a Series of Municipal Solid Waste Planning Guides	19
Evaluation of Municipal Solid Waste Landfill Cover Designs	81
Facility Siting and Public Opposition	65

<u>TITLE</u>	<u>PAGE</u>
Feasibility of Tax Incentives for Purchases of Recycling Equipment or Recycled Products	22
Garbage Burning -- Lessons from Europe	65
Garbage in America	85
Garbage Management in Japan	4
Garbage Practices, Problems and Remedies	4
Garbage Reincarnation: Curriculum Guide for 4th, 5th, and 6th Grade Teachers	86
Garbage Solutions: A Public Officials Guide to Recycling and Alternative Solid Waste Management Technologies	23
Getting the Word Out: A Guide to Publicity and Education	38
Groundwater Contamination Response Guide. Volume 2. Desk Reference	81
A Guide for Municipal Leaf Composting Operations	60
Guide for Preparing Commercial Solid Waste Reduction and Recycling Plans	33
Guide for Preparing Solid Waste Recycling Plans for Multi-family Residence Units	37
A Guide to Recycling Commercial Waste	33
A Guide to the Safe Use and Disposal of Hazardous Household Products	92
Handbook for the Reduction and Recycling of Commercial Solid Waste	34
Handbook of Financial Options for Waste-to-Energy Systems for Urban Government	68
Hazardous Waste from Minnesota Households: The Final Report of the Household Hazardous Waste Pilot Collection Project	92
Here Today, Here Tomorrow - Revisited: a Teacher's Guide to Solid Waste Management	86
Household Battery Collection Program	49
Household Hazardous Waste Bibliography of Useful References and List of State Experts	92
Household Hazardous Waste Collection Programs	93
Household Hazardous Waste Disposal Project - Summary Report	93
Household Hazardous Waste Educational Program Kit	86
Household Hazardous Waste Management in North America and Europe	93
Household Hazardous Waste Wheel	94
Household Hazardous Wastes: Feasibility of Operating a Collection and Disposal Assistance Program	94
How to Run a Community Recycling Center: A Resource Guide to Low-Technology Recycling in Illinois	29
How to Set Up a Local Used Oil Recycling Program	49
Hydrologic Evaluation of Landfill Performance (HELP) Model	82
The Impacts of Lead Industry Economics and Hazardous Waste Regulations on Lead Acid Battery Recycling: Revisions and Update	49
The Impact of Source Separation Plans on Resource Recovery Facility Economics	23
Incentives for Recycling	24

<u>TITLE</u>	<u>PAGE</u>
Integrated Waste Management Systems Computer Model	4
The Integration of Material Recovery in the Essex County Solid Waste Management Program	5
Intensive Recycling Feasibility Study for the City of Buffalo	24
Interim Report of the Source Reduction Task Force	15
Is Resource Recovery for You?	66
Landfill Salvage	76
Landscape Waste Compost: Distribution and Marketing Strategies	60
Leaf Composting - A Guide for Municipalities	61
Leaf Composting Guidance Document	61
Leaf Composting Manual for New Jersey Municipalities	61
Legislative Summary: Statewide Recycling Laws	41
Let's Recycle! Lesson Plans for Grades K-6 and 7-12	87
Making a Difference: A Curriculum Process Guide for Community Environmental Problem-Solving Projects	87
Master Composter Training Manual	58
Mathematical Model for Strategy Evaluation of Municipal Solid Waste Management Systems	5
Michigan Household Hazardous Substance Handbook	94
Michigan Secondary Market Development Strategy	43
Mining Urban Wastes: The Potential for Recycling; Worldwatch Paper 76	25
Motivating Recycling	39
Multi-Material Recycling Manual	50
Municipal Composting	59
Municipal Incinerators: 50 Questions Every Local Government Should Ask	66
Municipal Recycling Ordinances	41
Municipal Solid Waste Incineration: Ash Management and Disposal	69
The Neighborhood and Centralized Yard Waste Composting Demonstration Projects -- 1982-1983	62
The New Jersey Composting Pamphlets	62
The New York State Returnable Beverage Container Law: Economic Effects, Industry Application, and Guidelines for Improved Environmental Policy (Working Paper #31)	42
The Next Frontier: Solid Waste Source Reduction	16
Office Paper Recovery: An Implementation Manual	34
Office Paper Recycling	34
The Official Recycled Products Guide	43
Operating a Recycling Program: A Citizen's Guide	29
Options to Overcome Barriers to Recycling	25
Oscar's Options, Book I and Book II	87

<u>TITLE</u>	<u>PAGE</u>
Overview of Energy from Municipal Solid Waste Technology; ESW Activities in Iowa and Surrounding States	72
Overview: Solid Waste Disposal Alternatives	5
Paper Recycling and Its Role in Solid Waste Management	50
Papercycle: Office Paper Recycling at the Ohio Department of Natural Resources	35
Pennsylvania Curbside Recycling Primer	29
Pennsylvania Glass Recycling: A How To Guide	50
Phase I and II Master Recycling Planning Study: State of Rhode Island and Providence Plantations	25
Pitfalls and Premises of Resource Recovery in Union County New Jersey	66
A Planning Guide for Residential Recycling Programs in Illinois: Drop-Off, Curbside, and Yard Waste Composting	30
Plastic Bottle Recycling Directory and Reference Guide 1989	50
Plastic Bottle Recycling Today	51
Plastics Recycling: Action Plan for Massachusetts	51
Practical Guide for Ground-Water Sampling	82
Process Design Manual: Municipal Sludge Landfills	77
Processing	19
Public Education	39
Publicity and Education for Recycling: An Informative Guide	39
Recycling from Municipal Refuse: A State-of-the-Art Review and Annotated Bibliography	26
Recycling in New Hampshire: An Implementation Guide	30
Recycling in Rhode Island: A Blueprint for Success	26
Recycling Mixed Waste Paper into Innovative Products	51
Recycling Works! State and Local Solutions to Solid Waste Management Problems	26
Renewable Energy: Resource Recovery	6
Report to Congress on Solid Waste Disposal	8
Resource Conservation and Recovery Act (RCRA) Ground-Water Monitoring Technical Enforcement Guidance Document	83
Resource Recovery from Municipal Solid Waste	6
Resource Recovery State-of-the-Art: A Data Pool for Local Decision-Makers	72
Resource Recovery: Teacher's Aide	88
1988-89 Resource Recovery Yearbook. Directory and Guide	64
Reusable Math	88
Second Opinion (Computer Model for Feasibility of Solid Waste Options)	6
Setting Up an Office Recycling Program: A How-To Manual for Businesses, Organizations, and Institutions	35
Small-Scale and Low-Technology Resource Recovery Study	67

<u>TITLE</u>	<u>PAGE</u>
Small-Scale Municipal Solid Waste Energy Recovery Systems	72
Solid Waste Collection and Disposal: 1987	20
The Solid Waste Dilemma: An Agenda for Action	7
Solid Waste Handbook: A Practical Guide	7
Solid Waste Management Alternatives: Review of Policy Options to Encourage Waste Reduction	16
Solid Waste Management Planning Guidebook (Minnesota)	8
Solid Waste Stream Assessment Guidebook	13
Solid Waste-To-Energy Technical Manual	73
Source Separation, Collection, and Processing Equipment	20
Source Separation - the Community Awareness Programs in Somerville and Marblehead, Massachusetts	40
Source Reduction Task Force Report	17
State-of-the Art Flue Gas Cleaning Technologies for Municipal Solid Waste Combustion	70
State Planning for Post-Consumer Plastics Recycling	52
State Solid Waste Policy Report: A Focus on Greater Minnesota - Background Paper X: Waste Reduction	17
Statewide Materials Market Studies (Michigan series)	44
Steps in Organizing a Municipal Recycling Program	31
A Strategy for Regional Recycling	31
Strength in Numbers: A Manual for Recycling in Multifamily Housing	37
Study and Assessment of Eight Yard Waste Composting Programs Across the United States	62
A Study of the Feasibility of Utilizing Solid Wastes for Building Materials	52
Survey of Household Hazardous Wastes and Related Collection Programs	95
Teacher's Guide: Educational Materials in Resource Recovery: Grades K-12	88
Technology Assessment: Municipal Solid Waste as a Utility Fuel. Final Report	73
Ten Steps to Organizing a Community Recycling Program	31
There's More Than One Way to Recycle: Case Studies of Recycling Programs	27
Thermal Systems for Conversion of Municipal Solid Waste. Volume 5. Pyrolytic Conversion: A Technology Status Report	74
Tire Recovery and Disposal: A National Problem With New Solutions	53
Transfer Stations	20
Used Oil: Disposal Options, Management Practices, and Potential Liability	53
Used Tire Recovery and Disposal in Ohio	54
Use of the Water Balance Method for Predicting Leachate Generation from Solid Waste Disposal Sites	83
Virginia Recycling Guide: Establishing a Recycling Collection Center	31
Waste: A Hidden Resource	89

<u>TITLE</u>	<u>PAGE</u>
Waste: Choices for Communities	27
Waste Composition Studies: Literature Review and Protocol	13
Waste Paper: The Future of a Resource 1980 - 2000	10
Waste Tire Utilization	54
Waste-to-Energy Facilities: A Decision Maker's Guide	67
Waste to Wealth: A Business Guide for Community Recycling Enterprises	32
Why Waste a Second Chance? A Small Town Guide to Recycling	36
Worms Eat My Garbage	59
Yard Waste Composting: Guidebook for Michigan Communities	63
Yard Waste Composting: Implementation Plan	63

